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THE KANSAS CITY

# MEDICAL JOURNAL.

*APRIL, 1872.*

## Is Quinine a Uterine Motor Stimulant?

By Prof. T. J. EATON, M. D., Baldwin City, Kas.

In the October number of the American Journal of Medical Sciences, an article appeared setting forth the views of one M. Monteverdi in regard to the action of quinine on the uterus.

As the result of a series of experiments "he finds that quinine exerts a general tonic influence on all the organs of the body, but especially upon the uterus."

"In the course of half an hour after it has been administered short contractions occur in the uterus, unaccompanied by pain, and these gradually become longer and stronger, with distinct intermissions, so as to resemble closely ordinary pains of labor, the effect lasting for about two hours."

"In order to effect the expulsion of the fœtus and of the placenta, he believes that doses of about four grains will be found the most appropriate."

"Quinia he thinks preferable to ergot, because it exercises no injurious influence either on the mother or child, because it is very certain in its action, because the contractions it induces are very regular and natural in their character, and

because it is free from danger at whatever period of pregnancy it is administered; or in cases of contracted pelvis, incomplete dilatation of the os uteri, and antecedent to the escape of the waters."

Does quinine act as a uterine motor stimulant? This is an important question for us to decide, for if the claims of Monteverdi be true, how many of us are unconsciously acting the role of the abortionist?

What our eastern brethren may have thought of these views I have no means of knowing, but in this practical western country, where quinine is taken almost *ad libitum*, nearly every practitioner passed them with an incredulous smile, and at once voted our great anti-periodic "not guilty."

Such were my own views on first reading the article; but since that it has fallen to my lot to attend successively three cases of abortion, in which quinine had been administered and miscarriage followed in such a manner as to raise in my mind the question whether they might not have stood to each other in the relation of cause and effect.

I am not satisfied beyond a doubt that such was the case, but so forcibly was my attention drawn to the subject that I have concluded to report the cases.

They were as follows:

*Case 1st*—Mrs. S., aged about thirty-six, had miscarried during the sixth month of her first pregnancy, but had since borne two children to full term.

She was, according to her own counting, in the sixth month of her fourth pregnancy when, on November 21st, I was called to see her; found her suffering from the usual symptoms of an uncomplicated intermittent; prescribed quinine in five grain doses; the chills were broken up, but returned again the seventh day.

She did not consult me this time, but having quinine in the house, she took from five to seven grains every three hours until four doses were taken. Notwithstanding this she had another paroxysm the next morning; she had a violent chill, accompanied by vomiting, a little purging and some tenesmus. Fever ran high but did not last long.

Nov. 29th, 5 P. M.—Called to see her about five hours after

the paroxysm had began to subside. Found the skin moist; complained of nothing but prostration; before my arrival had taken two large doses of quinine within two hours of each other; from her description of the amount I should think not less than eight grains in a dose. On inquiry, found she had, before my arrival, a few wandering pains of a suspicious character. Fearing the return of another chill more than I did the action of the quinine, ordered the latter to be continued in five grain doses every three hours, but added to each dose a little sulphate of morphia.

Nov. 30th, 9 A. M.—No chill, but patient complained of tormina and tenesmus; bowels had moved three times; I had given no cathartic, and patient declared she had taken none. Ordered quinine to be discontinued; gave one-fourth grain of morphia every two hours.

4 o'clock P. M.—Owing to a misunderstanding of my directions in the morning she had taken another dose of quinine left from what had been prescribed the day before. She claimed that soon after taking this dose, labor pains came on, gradually increasing in frequency, until my arrival. On examination I found the os uteri fully dilated and the vertex presenting. Before I could wash my hands a pain came on, not apparently very severe, but prolonged. When it had passed off the lady exclaimed, "Doctor, there is something born." On examining, found both child and placenta in the bed; as the child did not breathe, I severed the cord and dipped it into cold water; it gasped a few times and finally set up a feeble effort at crying; wrapping it in cotton, we made every effort to keep up the feeble spark of life it had; it lived eighteen hours. The mother made a complete and rapid recovery; had no more dysenteric symptoms and no chills to this day.

*Case 2d*—Dec. 4th, was called to see Mrs. N., aged twenty-two, primipara, in fourth month of pregnancy. Found her suffering with remittent fever; had taken the preceeding evening three compound cathartic pills. I prescribed quinia pills, one grain every two hours, acid drinks, and Dovers powder at bed-time.

Dec. 5th.—Condition much the same; no decided chill; high

fever, alternating with slight perspiration, especially about the forehead; continued same treatment as day before.

Dec. 6th.—A decided intermission; prescribed quinia and Dovers' powders, of each three grains every three hours.

3 o'clock P. M.—Called again; found my patient had been having labor pains since noon; a slight show of blood. On examination found the os uteri rapidly dilating; gave anodyne, but the pains gradually increased in frequency for one hour and a half, when the contents of the uterus were expelled. There was considerable prostration, but no hemorrhage of any amount.

Dec. 7th.—Had slight chill, followed by fever; prescribed quinine and Dovers' powders.

Dec. 8th.—Condition good; no chill; no fever; takes some nourishment; prescribed no medicine.

Dec. 9th.—Had a decided chill, considerable fever following; lochial discharge stopped; prescribed dose of castor oil, warm fomentations to the vulva and abdomen, quinia, four grains, and Dovers' powders every three hours. She had no more chills; recovered rapidly and is now enjoying good health.

*Case* 3*d*—Mrs. A., wife of an emigrant from Illinois, came to my office, Dec. 7th, while passing through our town; was in the third month of pregnancy; had been suffering for ten days; had bought thirty grains of quinine at a drug store somewhere in Missouri and taken it herself. When I saw her she had a high fever, severe headache and some pains which simulated those of labor. Thinking the jolting of the wagon might have something to do with bringing on the pains, advised her husband to stop a few days and let her rest. Prescribed one bottle citrate magnesia and Dovers' powder at bedtime. He drove three miles south and stopped with a farmer the remainder of the day and the night. The next morning he called at my office to tell me that his wife was much better and that he had come to the sage conclusion it was nothing but ague after all. He bought sixty grains of quinine and resumed his journey. I have since learned that three days subsequent he was compelled to stop again, and that his wife aborted.

The above cases have no especial interest except that

which relates to their causation. Had I never met with the views quoted at the beginning of this article I might have reasoned somewhat in this manner: In the first case we have a predisposing cause, in the lady having aborted during the sixth month of her first pregnancy, an exciting cause in the violence of the chill. In the second case I could trace no adequate cause whatever, unless the compound cathartic pills were to blame, which is scarcely possible. In the third case the jolting of the wagon and the general rough usage incident to travelling with a team. But having read the article referred to, and the cases following as they did in such quick succession, certainly gave me room for thought. I therefore publish them that others may have their attention directed to the same subject. *If quinine is a uterine motor stimulant, let us know it positively.*

---

## Hypodermic Medication.

By T. Curtis Smith, M. D., Middleport, O.

Formerly every age had, now every decade has, its peculiar tastes and fashions. Formerly advancement in the science of medicine was slow, very slow indeed, when compared with the rapid march it has been making the last score of years. How dark must have been those ages when the light given by the knowledge of chemistry, practical dissection and microscopy were unknown, and when the faith of the practitioner was placed in the power of a remedy or in the virtue of a routine of superstitious acts which he performed. By chemical analysis we can to-day determine the constituents of all the tissues; of the food taken to create them; of the results of tissue waste. We have learned most of the laws of our physical being, and to this end morbid anatomy and practical anatomy have contributed no small portion. Diagnosis is now quite exact with the major portion of the profession, especially the *younger* members. To aid in this, physical science has yielded valuable assistance and has contributed the stethoscope, opthalmoscope laryngoscope, the speculum, &c., all of which have rendered valuable assistance.

Those who have gone before us have accomplished a good work, plodding though it was—and we are not done groping yet, and what we work out will be to the advantage of the generations yet to arise, more than to our own. We should not, therefore, look back upon our professional ancestors with any degree of disdain, for no doubt they accomplished as much as any other generation would have done all other things being the same. But in our day, as it has always been, we have fashions and fancies in medicine. One of those that has already rung its changes at all the chief medical centres, and is now rapidly diffusing itself throughout the mass of the profession, is the one under consideration in this paper—"Hypodermic Medication."

Many fashions instituted have been hurtful—therefore short-lived, but it remains to be seen what the history of this mode of administration will be in the future. As it always has been, so it will always be, that for the most part remedies will be administered *per orem*; yet for certain effects, and a certain class of cases of daily occurrence, it is very doubtful whether the great value of hypodermic medication will ever be greatly, if at all, depreciated. There are two distinct periods in the history of this method of giving remedies. The first embraced "the discovery of the practicability and utility of introducing medicines under the skin for the relief of local pain."

For this discovery and first application we are indebted to Alexander Wood, of Edinburgh. He was led to this by first being strongly impressed with Valleix theory of there being four points in every sensitive nerve, more liable to be affected by neuralgia than any other portions,[1] viz: 1st. At the point of emergence from its bony encasement; 2d. Where it traverses a muscle; 3d. Its peripheral termination; 4th. Where it approaches nearest the integumentary surface.

This would embrace the idea that neuralgia was strictly a local disease and required only a local remedy, and upon this idea, certainly not a strictly correct one, Wood seemed to act throughout.

The second step that led to the discovery was the invention and use of an instrument to inject nævi, by Ferguson. Taking

1 Gallaher, N. Y. Journal of Medicine for May, 1871, p. 532-3.

up the belief that neuralgia was strictly a local malady, with a knowledge of the fact that remedies could be injected beneath the skin, he immediately devised an instrument to prove his theory and had not long to wait before an opportunity presented for a test case. His first case was an old lady suffering with cervico-brachial neuralgia. An injection of thirty drops of vinous solution of morphia at the sensitive point, gave instantaneous relief and soon induced sleep, which was quite prolonged and caused some uneasiness for the safety of the patient. The one single injection *entirely cured* the patient of the neuralgia.

After this, in and around Edinburgh this method of medication with opium, or its salts, was frequently practiced. But it seems for a considerable length of time to have been confined to the use of some preparation of opium and to the treatment of neuralgia only. Wood believed that to be effectual for the relief of pain the remedy should be localized, but did not fail to recognize its systemic effects. Indeed, it would be difficult to avoid the notice of these. His first publication on this subject appeared in 1855,[1] twelve years after his first resort to it, in the case above named, which occurred in 1843. His claim of priority in the discovery and use of remedies by this plan was disputed by Rund, of Dublin,[2] who claimed to have used it in Meath hospital in 1844, which was one year later than its use by Wood. Sieveking, of London, also claimed the honor for Kurzak, of Vienna, but none of the German authorities sustain the claim of the latter. It is now generally conceded that Wood rightfully has that distinguished honor. Considering that various agents had, prior to this date, been injected into the veins in experimental physiology, that the rapidity of the circulation and of absorption had before this been pretty well established, it seems to us, in our present light on the subject, strange that the utility and great advantages of this method had not been discovered sooner than they really were. The theory of Wood in connection with "the discovery of the practicability and utility of introducing medicines under the skin for the relief of local pain,"

1 Edinburgh Medical and Surgical Journal, 1855.

2 Bartholow on Hypodermic Medication, p. 14.

and that it must be *locally applied*, constitutes the first period in the history of hypodermic medication. For four years the theory was not publicly disputed.

But in 1859, Charles Hunter, of London, published his first paper entitled "Experiments Relative to the Hypodermic Treatment of Diseases." He proved conclusively that the solution injected into the cellular tissue was absorbed and produced its characteristic influence on the physical economy through the nervous system, the same as when given by the stomach, except that its action was far more rapid and concentrated with some other variations to be noticed hereafter. He was led to this discovery by having two neuralgic patients who "both had abscess in the neuralgic site from the continuance of localization."[1] In these patients the point of injection was varied to a distant part when "it was found—First, that in neuralgia equal benefit followed distant injection of the cellular tissue as followed the injection of the neuralgic site; secondly, that localization was not necessary to benefit a given part; and thirdly, that for certain reasons it was better not to localize,"[2] the principle reasons being—First, the great liability to produce abscess at the neuralgic site; second, the unnecessary infliction of pain, and, third, the advantage of being able by this latter plan to treat a large number of cases of this disease where localization was impossible, as neuralgia of any of the internal viscera. Hunter was enthusiastic in advocating this plan of medication, and especially his discovery that localization was not necessary. Those who are acquainted with the wide range of application of the method as now employed, both in the variety of diseased conditions and of remedies used, will readily perceive the rapid advancement that has been made in this direction in a single decade, and all this will satisfy those experienced in the matter that hypodermic medication will not prove to have been an evanescent fashion in medicine, but that it has already become a standard means of great value to patient and practitioner in the treatment of all painful and spasmodic diseases and in many other instances.

1 Bartholow, p. 16.
2 Ibid.

From the time of Wood's first publication in the Edinburgh Medical and Surgical Journal, in 1855, and especially after the impetus given to the remedy by the papers of Hunter, and the warm, almost personal, discussion that arose between himself and the first author of the plan, it spread rapidly through England and on the continent.

Our own countrymen were not slow to adopt the remedy. The late Prof. George T. Elliot, of New York city, introduced it into the Bellevue Hospital, in 1858, in the treatment of sciatica. This is the first instance of its use in this country that I have been able to find. Since then it has rapidly spread. The first time I observed it was by Prof. L. M. Lawson at the Commercial Hospital in Cincinnati, O., in 1862, for the relief of lumbago.

But notwithstanding this rapid advance and its many advantages in some cases, it is still by very many greatly unappreciated and there are now many practitioners "who will not admit that there can be any particular advantage in it which the old way of giving medicines does not offer."[1] Similar prejudices exist in every part of this country, and those who now employ the method are very largely in the minority, and a few, even now, have never heard of this plan of treatment. Some oppose it because they deem it an innovation and of short life. Others, practically unacquainted with the method and power of the agents to be used, are afraid to attempt its application. Having given thus far a brief history of hypodermic medication, I shall now speak of the dangers of the method, and after that of its advantages in certain cases. There are perhaps very few, if indeed any, very valuable therapeutic agents which, if improperly used, are not more or less hurtful or even dangerous. Even water, than which we have few better remedial agents, is dangerous when improperly used; but this plan has some real dangers which the practitioner must, and can very easily, avoid, and I think but a short time will elapse before these dangers will be reduced to a minimum.

The greatest danger is that of entering a vein, by which the remedy is *all* instantly carried to the heart and nerve masses,

1 Anstie, Practitioner, July, 1868.

causing great depression, often serious in character. Drs. Southey[1] and Duckworth, of London, each relate a fatal case, the former from one-sixth grain of sulphate of morphia. Hanfield Jones relates three cases of serious fainting following an hypodermic injection of morphia. In all these cases there was serious valvular disease of the heart or dilatation of the same, and it is not improbable a vein was entered. Dr. Gallaher, of Pittsburgh, Pa., mentions a case where serious prostration was produced which lasted twenty-four hours. Prof. Nussbaum[2], of Munich, after injecting himself over two thousand times finally injected two and a half grains of morphia into a vein. This was followed by very serious prostration, from which he, however, recovered. In this instance the quantity alone was enough to constitute a poisonous dose.

Though I have used hypodermic injections for three years almost daily, I have never seen anything more serious than slight depression, nausea, vomiting, itching, and in one case a small abscess Gallaher mentions a case where it had been used fourteen hundred times without anything more serious than the formation of a large pustule in two instances. Many more such cases could be related. In my own practice, in one case, I used thirty-five injections without any evil result following. In another more recent case upwards of seventy-five injections were administered without in any instance causing more than a small amount of temporary soreness at the site of the puncture. In this case any remedy by the stomach, of whatever kind, was promptly rejected, and relief could only be afforded, through a long and serious illness, by the administration of hypodermic injections of some of the anodyne alkaloids. From experience and observation I believe this to be as safe as the stomachic use of the various agents, if, indeed, not safer, for the reason that the physician, by waiting ten to twenty minutes, can always see the full effect of his treatment, and, if hurtful, can counteract it at once.

To avoid the dangers of this method, or to reduce them to the minimum, I have adopted and recommend the following plan, and believe it will seldom, if ever, fail to avert the risk

1 London Lancet, March, 1871, pp. 161-2.
1 American Journal Medical Sciences, June 1866, p. 240.

of injecting a vein, which is the only real source of danger, barring cardiac disease. It should always be remembered that the remedy should not be used by this method any more than by the stomach, where cardiac disease exists. Hunter states that he has not observed any bad results to follow its use even where valvular disease was present, or ever any serious results even from an annual experience of two thousand cases.

It is my opinion, as stated in the Chicago Medical Journal, July, 1871, that the injection of a vein can quite invariably be avoided by inserting the needle from three-fourths to one inch through and under the integument into the cellular tissue, and then, before injecting the solution, withdraw the point of the needle one-fourth or one-half inch, then raise the integument with the needle, holding the instrument nearly parallel with the surface into which it is inserted. The little force thus used to elevate the skin will rupture the delicate tunics of any subcutaneous vein it may have entered. By this precaution, the vein, if punctured, will be pouring out its own blood, and will, therefore, not be able by any possibility to carry the solution injected directly to the heart. The only exception I can conceive to the success of this plan would be where the vein was followed in its course by the needle and where the integument was so tight that it could not be lifted by the needle without endangering its integrity. This would certainly be a rare occurrence. I consider it of vital importance that these directions be carefully followed.

The ordinary plan with most operators has been, and is now, to simply pinch up a fold of the integument, pass the needle through it by a quick thrust and then carry it a half inch or more under the skin into the cellular tissue, holding the instrument so the point of the needle will be close under the skin, and then, without withdrawing it or elevating the integument, to simply inject the solution. In this way it will be seen that a vein would be very liable to be entered and serious consequences follow the injection of the remedy used. If air has been drawn into the syringe, the instrument should be *inverted* and the piston pushed in till all the air is excluded. Air injected into a vein in any considerable quantity would prove to be a serious matter for the patient. The two deaths

above mentioned are all I have been able to find resulting from this method of medication, and it is questionable whether or no it was the operators' fault in these instances. No statement to the contrary has appeared.

The proper situations for these injections are the breast, back, abdomen, outer faces of the upper and lower extremities, and occasionally the frontal and temporal regions. Vascular sections, bony prominences and inflamed or highly sensitive portions should always be avoided. Care should also be taken not to inject twice in precisely the same spot, otherwise an abscess may result.

Of the instruments to be used those made of glass, gold or silver are the best. I prefer the graduated glass barrel. A very ingenious instrument is the glass barrel graduated and cased with silver plating, and a slide arranged in one side to be slipped out while being used. By this plan the glass is protected, and still the operator is able to see the quantity of the solution he has in the syringe and whether all the air is excluded. Of these facts he cannot be so certain when using an instrument made of opaque material, as gutta percha, silver, &c. The *points*, or needles, should always be of gold, silver, or nicely gilt steel needles. The ungilt are always becoming rusty or corroding, and require much trouble to keep them in proper order. The instruments first used were devoid of needle points, hence a preliminary incision was necessary before injecting. These were the Wood or Pravaz syringe Mr. Rynd's instrument expelled the fluid by force of gravity. Mr. Hunter's by turning a screw, each turn of which expelled a minim of the solution.[1] Some instruments have a square piston and are graduated on the piston rod, instead of the barrel. This, of course, is the only way it can be done in opaque instruments.

Most of the instruments used in this country are very simple in their construction and operation, and have only to be seen to know at once how to use them. But while this is so, there are also a great many worthless instruments, like the auctioneers' razors, "made to sell." Every operator should provide himself a good instrument so that he can avoid

1 Bartholow, p. 22.

bungling the little operation. One objection to this plan, which I should have mentioned before, is unwillingness on the part of patients to submit thereto. Persons not suffering pain often object to having pain caused by puncturing the skin. But few will do so when they once see the advantages to be derived. Much of the pain may often be prevented by pinching up the integument and holding it quite firmly between the thumb and finger a moment before inserting the needle.

So far as my experience goes it is not applicable to the treatment of diseases in children, for reasons that any person will readily perceive. However, in exceptional cases, as in convulsions, excessive vomiting, extreme pain, so-called congestive chill, &c., it may be and is often used in quite young children with the happiest effects.

*Solutions*—In this method much of the measure of success depends on the purity of the medicines used and the character of the solutions. Every remedy used for subcutaneous injection should be in a perfect state of solution, as particles of undissolved medicines, when introduced into the subcutaneous cellular tissue, are not readily absorbed and are liable to act as a foreign substance, producing inflammation and abscess. It is, therefore, necessary to filter every solution kept for this purpose, thus removing all extraneous matter floating in the solution. Small bits of solid matter will also be very likely to block up the cavity of the needles, thus seriously interfering with the success of the operation. Solutions should also be neither strongly acid nor alkaline, but nearly neutral. No solution capable of coagulating the blood, or any of its constituents, should be used, except for the purpose of destroying nævi. One exception to this has, however, been established, i. e., in the use of a solution of bi-chloride of mercury in the treatment of constitutional syphilis; but it is now the endeavor of every one using this method to prepare their solutions so as to prevent the formation of an abscess. Solutions should not be too much concentrated. Pure distilled water is the best vehicle for their preparation. This can be injected in any reasonable quantity without harm. Solutions, especially of the alkaloids, should not be too long kept, for the reason

that penicilli[1] develop at the expense of the alkaloid, thus rendering the solution of very uncertain strength.

FORMULAS.

The best for morphia is Magendie's solution, which consists of sulphate of morphia, grs. xvi, distilled water ʒ j, *M.* Filter; of this thirty minims equals a grain; 5 to 8 minims an ordinary dose.

For morphia and atropia the proportions must vary according to the effect desired. The two remedies are antagonistic in their physiological effects. One grain of morphia and one-twenty-fourth grain of sulphate of atropia are equal to each other in toxical effects. One grain of sulphate of atropia added to Magendie's solution is a very good formula; of this five minims is the average dose. More or less may be added according to the effect desired. The addition of atropia to morphia in my experience has seemed to increase the hypnotic effects of the latter.

℞ Atropiæ sulphatis, gr. ss; aquæ destillatæ, ʒ iii; *M.* Filter. Of this 4 minims equals 1-90th gr., the average dose.

℞ Strychniæ sulphatis, gr. i; aquæ dest., ʒ iii; acidi hydrochlorici, gtt. i, *M.*; five minims equals 1-36th gr. It would be well to commence with a smaller dose and gradually increase to 1-30th or even 1-20th of a grain every alternate day. I have never given more than 1-24th grain, which produced the characteristic physiological effects. The antidote for poisoning by this drug is physostigma.

℞ Quiniæ sulph., gr. xx; acidi sulph. aromat., *M* x; aquæ destillatæ, ʒ iii; *M.* Filter. Nine minims equals one grain. This solution often has to be warmed to render the solution perfect at time of using. This is more apt to produce abscess than any of the solutions before mentioned on account of its greater acidity, but with care this accident can nearly always be avoided.

[2]℞ Ext. physostigmæ, gr. ii; aquæ dest., ʒ i; *M.* Of this 8 minims is a fair commencing dose. It should be used with as much care as strychnia. The indications for these drugs are

1 Bartholow.

2 Bartholow, p. 120.

directly opposed; while strychnia exalts, physostigma diminishes the reflex faculty of the spinal cord.

[1]℞ Hydrargyri bi-chlor., gr. i; aquæ dest., ʒ ii; *M.* Ten minims equals 1-10th grain. This may be used every alternate day, which is sufficiently often in most cases, yet in cases suffering severely from constitutional symptoms, it may for a time be used daily. For other formulas less frequently used I will refer the reader to some monograph[2] giving in full all the articles used and their characteristic physiological effects and therapeutic applications.

## PHYSIOLOGY.

Remedies injected into the subcutaneous cellular tissue have, in most instances, the same effect as when administered *per orem.* There is, however, in some instances, a variation from this rule. When quinia is injected under the integument, considerable elevation of temperature is often observed, these symptoms being slight or inappreciable when it is administered by the stomach or rectum in doses of the same size. A scientific[3] committee, appointed by the Chemical Society of London to report on the physiological and therapeutical effects of remedies administered subcutaneously, gave it as their opinion "that no difference has been observed in the effects of a remedy thus given, and by their introduction into the stomach, *except* greater rapidity, certainty and intensity of effect, and requiring a less amount to affect the system than when given in the usual way." We think, however, and have gained this opinion from personal experience and observation, that very often there is a wide difference in the physiological effects of a remedy by this and the old method. For instance, many persons can use morphia by this method without bad sequences, while, by the stomach, its sequences are worse to endure than the disease it was intended, by its use, to relieve. Many such cases are recorded and some will be referred to in this article.

Morphia, by this method, often constipates the bowels, not

1 R. W. Taylor, M. D.
2 Bartholow's.
3 American Journal Medical Sciences, October, 1867, p. 537.

by its astringent power, but by its sedative influence over the nervous system. Opium has no astringent power, even when given by the stomach, neither have its alkaloids, "yet[1] it is one of the most powerful astringents we possess." This seems like a contradiction, but its actions, which simulate the effects produced by astringent drugs, are all the more or less direct effects of the remedy on the nerve centres. Opium retards molecular metamorphosis, first, in the interest of waste, and, secondly, in the interest of repair. By diminishing the rapidity of molecular metamorphosis in the nerve masses, less nerve influence is transmitted to the tissues supplied by that vital influence from the nerve centres. Hence the rapidity of molecular change, both in the interest of repair and waste, is retarded in the whole physical organism. In our opinion it is by this effect on the physical processes of organic life that opium and its alkaloids produce their anodyne, hypnotic and other effects.

Morphia hypodermically is, by many, believed not to be as valuable as a hypnotic as *per orem*, but in my hands it is more powerfully so by this method than given any other way. To increase its hypnotic effects, a little atropia added has a happy effect. The committee above named state that "a solution of podophyllin injected under the skin gave rise to free diuresis, a symptom which was characteristic of this method of administering the drug." I have, for experiment, given by this plan thirty-five injections, and in only one instance was this "characteristic" effect noticed, and that I think was a mere coincidence or accident. In the other cases I observed no effects from it except slight nausea and a great liability to produce abscess. We think experience justifies the conclusion that when a medicine for any purpose is administered subcutaneously, "its[2] physiological and therapeutical effects are produced in the fullest degree and in the most characteristic form." It follows, therefore, that the powers and application of a drug not only differ in rapidity, intensity and certainty of effect, but, to some extent, *in kind*, according as it is used per orem or hypodermically.

[TO BE CONTINUED.]

1 Headland's action of medicines.

2 Bartholow, p. 29.

## Two Cases of Rupture of the Perinæum and of the Recto-Vaginal Septum Treated by Single Operations.

By Prof. A. B. Taylor, M. D.

Mrs. D——, aged twenty-six, came under my charge in June, 1871. Five years previous, during her first confinement, although the labor was natural, there occurred, from some cause, a complete rupture of the perinæum, which extended up the recto-vaginal wall nearly the whole length of the vagina. Subsequently she gave birth to two children at full term. Three months previous to the case coming under my observation, an operation was attempted which destroyed a large amount of tissue and increased the size of the rent. On examination, the perinæum and sphincter muscles were found entirely torn through, the walls being so contracted and destroyed by the previous operation that there were no lines showing the original position of the lower two-thirds of the vagina, but it and the rectum formed a large cavity. On the 18th of the same month I concluded to operate. Had the bowels thoroughly evacuated the preceding evening and well washed in the morning by warm water injections, this being a precaution of much importance. After the patient was thoroughly under the influence of chloroform, resting on her back with the hips drawn to the edge of the bed and knees supported by two assistants, one holding a Sims speculum well up under the arch of the pubes, I drew down the uterus and vagina, and, with scissors, removed the edges of the upper portion of the recto-vaginal wall and the perinæum, continuing on a line along the cavity formed by the rectum and vagina. After the hemorrhage—which was profuse—had been controlled by the use of ice, I closed the recto-vaginal fissure with five silver wire sutures. The perinæum was brought together by three quill sutures, using gum bougies and silver wire. I then introduced three interrupted sutures into the cut edges of the perinæum, tied the knees together and applied two broad strips of adhesive plaster, extending around to the gluteal regions, holding the nates close together and thus taking the tension off the deep sutures. The patient was kept under the influence of opium, thereby completely controlling the

bowels; the urine was drawn off twice a day, and at the same time water was injected into the vagina through a catheter.

The deep sutures were removed from the perinæum on the tenth day. On account of the support afforded by the adhesive strips, they had caused no irritation or sloughing of the parts. Her diet consisted of beef tea and wine for eighteen days, at which time the bowels were moved by an injection of warm water through a small gum tube. A small quantity of fecal matter passed into the vagina. After the bowels had been thoroughly evacuated, anodynes were again administered for ten days longer, keeping them perfectly quiet. They were then moved in the same manner as before and kept open for some days. The sutures were not removed from the vagina for several weeks, when the union was found to be complete.

Mrs. A——, aged twenty-four, first labor, at full term, commencing December 16th, 1870, lasting until the 19th, when she was delivered of two large children, the forceps being used on the last child. In this case there was a rupture of the perinæum extending through the sphincter muscles into the rectum. It was attended with extreme sloughing of the perinæum, and required removing a large portion of the lower part of the recto-vaginal wall, which extended one-half the length of the vagina. On the 27th of October, 1871, the patient being in good health, I performed a similar operation to that of Mrs. D——, assisted by Drs. Todd, Evans and Porter. The general treatment in this case was the same as in the other, there being at no time after the operation any escape of gas or fecal matter into the vagina. The vaginal sutures were allowed to remain until the patient was entirely well.

My object in reporting these cases is to bring before the profession a few practical points, which, I think, have been overlooked. Dr. Emmet, in his work on vesico and recto-vaginal fistula, informs us that the execution of any operation on the posterior wall of the vagina, however simple, is in comparison far more difficult than on the opposite side. This can, to some extent, be overcome by using a large sized Sims speculum under the arch of the pubes, at the same time holding the perinæum and posterior wall of the vagina downward and backward by the fingers of an assistant, then, with forceps or

a tenaculum, draw the uterus and vagina down until the opening is well in sight; next, the use of adhesive strips, drawing the nates close together, thus taking the tension off the deep sutures, preventing sloughing, which would require their early removal.

## Colic in Babies.

By Alex. W. Acheson, M. D.

"An ounce of prevention is worth a pound of cure."

The "pound of cure" I leave for another occasion, contenting myself with a few observations on the "ounce of prevention."

If taken in due time, no trouble is more easily controlled than colic. If permitted to exist, not only the child suffers, but the mother, through anxiety and loss of sleep, may be broken down. My attention was first called to colic by my own child, who cried regularly every day, for the first three months of its existance. For it I could get no remedy to cure. Palliatives were numerous. In this case, I observed that as soon as the child was born, its grandmother took it away and fed it. Was that correct?

I had noticed that the calf, the colt, the young of all animals, except man, get no food until nature provides. The first chicken of a brood may be hatched on the seventeenth day, and remain on the nest with the old hen, until the twenty-first without food, and at the end of that time be the strongest, brightest, liveliest chicken in the brood.

A mother's milk may not appear until the third day. Is it proper to let the child go without until the supply comes?

Theoretically, yes; because if Nature intended the child to have food sooner, it would provide it.

But what will be the effect on the child?

This question I determined to answer by an experiment. When my next child was born, I gave explicit directions that it should not have anything to eat except what the mother could supply. It was a difficult matter to surmount the objections of the mother, nurse, friends and neighbors. "The

child could not live," was the common expression. But it did live, kept quiet, did not seem to suffer for want of food, and on the third day had its patience rewarded by a full meal.

This child cried during its childhood, from colic, only three times, and in every instance we were able to trace it directly to indigestible food.

I was satisfied; but as "one goose does not bring Spring," so one case does not establish a rule.

In the second case in which I pursued this course, a like result followed. The child was quiet, and the mother happy.

In the third case in which I laid down the law, an old maid got the child, and on the occasion of my next visit I found her feeding it.

"What are you doing with that child?"

"Feeding it."

"What are you giving it?"

"Molasses and water."

"If you should take that dose yourself, what effect would it have?"

"Give me a head ache."

"And yet you'll give to that weak, new-born stomach, truck your own will not bear. Did I not tell you not to give it anything?"

"Yes; but you're too young to teach me anything about children."

In this case, colic was present to such an extent that the child did little else but cry for four months.

With these few cases I established the rule, never to feed a child anything until the mother's milk comes, and I have never yet encountered the case wherein I had to regret so doing.

The child may be put to the breast immediately, particularly if there is any disposition towards flaccidity of the womb. There will be some material found in the breasts, but not much, for two or three days. There is no fear of starvation inside of four days. Instead of growing weak, it will be seen to steadily improve in strength; and another point of importance in following this rule, is that the child never forgets how to suck, as it is apt to do if fed with a spoon.

In every case of labor I now attend, I tell the mother frankly, that if she wants her child free from colic she must not feed it, and if she does, she will suffer for it as certainly as fate.

There is a common impression that whatever the mother eats which is liable to produce colic in her, will through the milk have the same effect on the child.

If you disable a child's stomach by improper food at the beginning, it is not surprising if anything would on certain occasions give rise to colic. But if a good start is made, and the stomach not injured at birth by "brandy and water," "sugar and water," or "molasses and water," &c., the mother can eat whatever she wishes, and without fear of her child suffering for it.

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## Address to the Graduating Class of the Kansas City College of Physicians and Surgeons, March, 1872.

By L. K. THACHER, President of the College.

To the thoughtful young man there are three obvious questions which present themselves as he looks out toward the on-coming life—First, Shall I be a business man or a professional man? Secondly, If a professional, what profession shall it be? Third, How shall I escape downright or even comparative failure in this profession? You, young gentlemen of the graduating class, are now confronted by this third grave question. You have had your election, you have mapped out the line of march and struck your tents, and now your friends and neighbors as they pronounce the "Hail and farewell!" will revolve in their minds these anxious questions: Will they reach the mountain? Will they survive the vague dream of the first day enthusiasm? Or, will they faint on the desert or expire amid the damp and dew of the swamps?

As no man can unfold the mysterious mechanism of the human mind, so no man can trace an infallible path-way which will lead all to the eminence of success; but as we cast our eyes around and discover that some have reached it, it is fair to conclude that others may, and among the prominent

rules for you to engraft on your individual statute book, I venture to suggest two :—

First,—*Singleness of Aim.* Machiavelli divides society into three classes—the men of genius—the absorbers—and the machines, or men who don't think. A laudable ambition which would spurn to be ranked among the latter, would equally shrink from the aspiration of being placed among the first, and thus you are narrowed down to the second order. But the span of life is short and the things to accomplish are vast and multiform. No ordinary man can cope with them all. Repudiation is inevitable. The grapple and the struggle must be with some one, leading, overpowering, all-absorbing purpose.

Invoke the historical record, and it is there written that the men of single aim, those with some distinguishing, conspicuous purpose, who have marshalled every energy and force and made them act to that particular end, have left imperishable names. This seems to be the dominant, unwritten law of the human mind—strong when concentrated, weak when expanded. And equally true in a physical sense. No martial maxim so vital as the one that a consolidated attack can not be resisted by a divided defence. Diffusion of effort hurries men on with mad impatience until they are driven round and round in the fatal circle of theory and failure. Men are not endowed with an indefinite faculty to rise from continued reverses. "No stone hurts like the one thrown from the ruins of one's own house," says the Italian proverb. Hope gives away to despair, and despair is the beginning of the end. One disappointment mocks the other, until the unequal conflict is renounced and the problem is handed over to the inexperience of some other enthusiast, fated to a similar defeat. The one purpose rule may prove an inexorable despotence, exacting, full of onerous demands, but beneath all is the rainbow gleaming with its promise of success—the end is triumph.

A medical student once said to me that if he could not make a living out of his profession, he knew what he could do; he could follow his trade. And ten to one the sequel will show

that his alternative will furnish him his daily bread, for instead of firmly pressing forward, burning his ships behind him, this guileless fellow will ever be twisting his head around toward his shameless line of retreat. It may be impossible to condense into a single channel of activity the whole power of one's being at once. Individual necessity or the claims of kindred may enforce a cessation of effort for the while, but the pillar of fire will steadily advance. The pioneer's cabin must at first serve the triple purpose of kitchen, bedroom and parlor; but with the growth of his flocks and the widening of his clearings, comes the mansion with its separate apartments.

In the development of civilization this individualizing process crops out as rapidly as the nature of things will permit. At first, the store on the frontier is an *omnium gatherum*, embracing everything from a hair pin to an ax-helve; but at last the steam engine comes, and then gradually this rude necessity gives way, and each line of trade goes off under its own individual roof. And all of this is the outgrowth of experience, teaching that riches, power and renown gravitate to the man of individual effort. Money, talent, opportunity are as idle as the drifting smoke, without this special purpose. It is the cord behind the arrow, it is the beetle behind the wedge, it puts to rout the enemy, it treads under its merciless hoof all opposition, and sweeps everything before its ruthless conscription.

Money in the hand of one man means kingly power or a princely fortune. In the hand of another only the vapid decorations of the hour, a mere tinsel, a license to travel the high road of human passions. Talent may dazzle and stun by its splendors and then vanish like the meteors, concealed ever after in sullen obscurity. Opportunity is but a fickle goddess, moody and treacherous, dancing her little hour on the stage and then gone forever. But to the man of settled design, who has his gaze fixed on some immovable object, toward which he is ever tending, money, talent and opportunity are but the servile implements with which he storms and carries the citadel, and in the end leave him at the utmost range of his long desire.

No lesson taught by Dame Nature is so extraordinary and

pointed as the one that all things within her dominion have their assigned and legitimate use. She never empowers one of her agents with a roving commission to do all things. She never authorized quinine and arsenic to go forth and cure all the pain of the human family. With a rigorous hand, each and every one is made to operate within a certain and defined realm. Nor will she permit them to shift their end and aim from day to day, choosing whatever novel object their whim might suggest. No one need feed upon the hope that Nature offers a boundless reward for that commodity known in western parlance as "cheek." "Roback's Compound Cathartic Cure-all" may dupe the crowd whose orbit of thought never penetrates beyond the showy label. The name of Helmbold may adorn every fence and exposed rock throughout the land, but the auctioneer's flag floating in front of his New York palace, proclaims the overthrow of his lofty, though hapless ambition. These immense pretensions are absurd illusions, prompted by avarice, spread broadcast by audacity and sustained by an over-credulous public. As a people, we Americans are averse to penetrating to the bottom of things, we want brilliant and easy success and we want it at once. There is no task so irksome as climbing one ladder up and up, but we would fain spread ourselves out over a dozen and ascend at one bound.

I am told that it is a violation of the ethics of your profession for any physician to advertise himself as a specialist; and without doubt there is wisdom in such a rule, for the untaught public, bent on business and careless of body until rendered helpless by disease, need all the safeguards possible to protect them from the rapacity of heartless imposters, who would with equal indifference give their gasping victims strychnine or the stiletto, and who know as little of medicine as they do of the rings of Saturn or the Olmpian home of Jupiter. Nevertheless, this regulation should not and will not hamper the personal independence of him who has resolved to follow some separate branch of his profession until his means and fame and fortune are established beyond the hazard of accident. Cicero said that in order to become an accomplished orator, one must make all the

resources of knowledge pay tribute to him. So, too, a worthy ambition for a high reputation in any particular department in your profession, will require all the outside helps you can command. Celebrated surgeons are not produced by simply knowing the art of handling with a dexterous hand the scalpel or saw. Cause and effect must be studied. Nerves must be trained in a school where stoics are made. Physics, botany, pharmacy and therapeutics are essential and inseparable servants. The inflexible law that hurries us on and hurries us off the platform of life, compels men who would rise above the common level to select some distinct line of pursuit and then coërce art and nature into service. There are a million things that the brightest genius that ever walked the earth could not know, except by hearsay or through the labor of some other man, and this is one of the significant reasons why the one purpose man leads in the race. He groups together the thoughts and discoveries of other men and applies them to the one end and ambition of his life.

The temptation to coöperate in various schemes is more seductive and unanswerable in a land like ours, where transitory advantage follows even moderate enterprise; but every day adds a new obstacle to this superficial order of triumph. Severe competition elevates success above the mere plans of speculation or venture, and the fair fruit that hung so near, tempting the hand to take it, eludes the grasp or turns into dust and ashes. The man who hopes to survive shipwreck or defeat in this perilous voyage of life, must not have a dozen polar stars toward which he sails. All roads lead to Rome, but his specific aim in life must be *the* Rome, and these converging roads must be to him only so many highways, over which roll the supplies consumed in the prosecution of his great work. Pericles said he found the Athenian people greater by experience than by report. So let it be said of your skill in whatever channel directed. Let no feverish impatience drive you from the determination to create a name in your particular calling, honored, respected and useful. Out of the many routes leading to the goal of your ambition, having decided on some one, the next rule to adopt by which failure may be set at defiance, is,

*Tenacity of Purpose*—Examine the professional and business wrecks all over the land. Hold to the light the weak and broken link in the chain of their career. Expose the rock which shattered and sent to the bottom the buoyant and early hope that animated them at the outset, and you will find that the distempered enemy who wrought this ruin and who was always at cross purposes with them, was no other than the skulking demon that prompted them to haul down their colors and beat a parley, long before they had exhausted the spirit, the energy and the strength which God gave them. They became powerless before the hardy and persistent storm. They were unable to summon moral bravery enough to throw overboard the Jonah that threatened to engulf them. They enrolled for the campaign, but the dust and smoke discouraged the high resolution which impelled them, when they swore, with uplifted hand, that they would stand to the race, at the hazard of their very lives.

It has been observed that, when a nation is threatened by serious danger, the citizens rarely retain their customary level, but rise above or sink below their usual condition ; and the same thing happens when a great emergency comes to the individual in his private state. The crisis rouses one man so that he strikes twelve right along until the peril is over. He frowns and stands to his work like a cannon, while another faints, is without pulse and falls.

Around the life of every man there is an invisible limit, beyond which his destiny cannot penetrate, but it is the rim of this circle that he should ever be striking for. In the pilgrimage of life you will be sure to meet many a Sphinx perplexing you with her snarled and twisted riddles. Your unrelenting enemy, failure, may oppose you with obstacles equal to the "twelve labors of Hercules;" but as Oedipus unravelled the Sphinx's riddle, and as the fabled giant proved himself an over-match for the twelve tasks, so will this deep-rooted purpose, to triumph in what you have undertaken, enable you to defy riddle and task.

Some wag has said that the reason why Nature is so perfect in her art and gets up such matchless sunsets, is because she has done it so often. But this *often* is the key of success. It

is the strong and long arm that beats down the opposing forces. It is the chain that binds fast the wheel of chance. It is a lash which the will applies, keeping the man to his purpose and discourageing all hope of a miracle.

Intellect is valuable—indispensable, but the results will be the results of a dwarf, if this talent is not backed up and held to duty by an unflinching and disciplined firmness.

Nature, the good old architect, who knows what she is about, only asks that the will-power keep her reënforced with this cool, steady, persistent quality and she will aid in building the temple so firm and solid as to defy the malice and envy of the world. Most of men have times when they feel like rebelling against their condition. It was this feature in human nature which prompted the Latin bard, centuries ago, to ask of his friend and patron this question, "How happens it, Mæcenas, that no man lives contented with the lot which either reflection may have given him, or fate thrown in his way, but rather lauds those who follow other associations?" Almost every man you shall meet during the day's business will portray the ease and delight of some other calling at the expense of his own. The man at the counter thinks his lot slavery in comparison with the man at the bar, and the lawyer or doctor will reply with a shrug and a pang, while the farmer ever sighs for the ease of the city. Discontent at times is inevitable, but it need not be the disastrous mäelstrom which shall swallow them up. There is no cancer which eats with such remorseless certainty as that which feeds upon vacillation.

Up and down these streets one may find plenty of gentlemen, educated and refined, who have dipped clear under the plane they once aspired to occupy. The letting down process is so much easier than the ascending process. One of the bright and clear-headed merchants of this city said, the other day, "I know a little of a great many things; I wish I had clung to my early intention of knowing a great deal of some one thing," a reflection echoed through the experience of men all over the civilized world who have discarded these two maxims. The fatal and bitter apple which most professional men taste of, is unripeness. They begin with steam up at ninety, but soon cool off, until the intellectual machinery

simply revolves, but revolves with none of its youthful vigor or fire. Charge any recent graduate of college, any young man in the outset of his professional life, with having no higher aim than mediocrity, and he will feel outraged and incensed at the cruel aspersion; but if you could challenge him at the other end of life, he would open up to you a confession of plans thwarted, faded and thinned out. It is not enough that each day has added a little more dust to the discarded Homer and Euclid; but the noble legend of his hope has been taken down—the struggle for a foothold, the pinch of want, the severity of competition, the dazzle of politics, the demands of society, have riveted the manacles of the captive on him. Nerve was wanting.

With all the experience of the past ages, no man on the face of the earth can trace for you on the map of life the exact spot where failure will assail. No recipe is ample enough for every case; but, happily, this is known: mankind have two hereditary enemies, one with the insidious voice of the siren, tempting his energies here and there—to no one purpose; the other, creeping over him with the drowsy, relaxing pulse of midnight, betraying with a kiss his best interest. One is quite sure to be the confederate of the other. Both have quivers full of poisoned arrows.

Now, gentlemen, after these ceremonies are over, the theoretical part of your career is past, and you will stand face to face with the stark and austere practical side of life. You will find it in dismal contrast to that which you have probably painted it. It will be to you March and April weather, gloomy and fickle, dark days, with high winds and dust for your eyes. All human elements may seem to conspire against you. Groping among your friends, it may be, and touching their very elbows, they may stand like graven images, refusing even a sympathetic glance; but believe me, when I tell you, that all the opposing forces of earth are foredoomed as against your own individual selves, intrenched behind this double rampart—*specific aim and grip of purpose.*

# SELECTIONS.

## Surgery.

### variotomy—Treating the Pedicle without Clamp, Ligature, or Cautery.

Being a Paper read at the Meeting of the Medical Society of the State of New York, February, 1872.

By JULIUS F. MINER, M. D., Buffalo, N. Y.

GENTLEMEN—During the past few years I have been led to make some observations as to the anatomical characters of varian disease, and to base upon those observations, and a few clinical facts which have come to my notice, the conviction that ovarian tumors—cystic disease of the ovary—can be removed by *enucleation*, without ligature, clamp, or cautery. All other steps in ovariotomy have been pretty well settled; this one alone, of how to treat the pedicle, remaining subject to the caprice of the operator, directed by no well-defined rule or law. Without attempting to enumerate the objections which may be fairly urged against all previous plans of procedure, allow me to describe a *new method*, which, I am now led to believe, will in all, or nearly all cases be found feasible, and, if so, is in every respect satisfactory.

My first observation and experience in this procedure occurred in April, 1869, and the case was reported in detail in the *Buffalo Medical and Surgical Journal* for June of the same year. It was described as follows:—"A few months since, I was invited to remove an immense ovarian tumor, occurring in the person of Mrs. Foster, of Cattaraugus county, N. Y. It was of a year's standing, had been repeatedly tapped, but at length the contents proved to be too thick to be drawn through the largest-sized canula; and the distress becoming too great for endurance, any operation which would end it, whatever might be the result, was gladly accepted. The tumor was multilocular, very large, weighing, as near as could be determined, nearly one hundred pounds. It was attached throughout its entire circumference to the omentum, intestines, walls

of the abdomen, and all other parts with which it came in contact. These attachments were not so firm but that they could be broken up, and with great care the tumor was separated from the surrounding parts until the pedicle was reached. The process of enucleation had been carried on so successfully and so extensively that encouragement was afforded for continued trial; the pedicle was large, and extended over a wide surface, but by careful and patient effort it was separated from its entire attachment to the tumor, and the immense growth removed without the ligation of a single vessel. The terminal branches of the vessels of the pedicle gave out no more blood than issued from the vessels of the attachment elsewhere, and there appeared no more occasion for ligature here than elsewhere. All hemorrhage soon ceased, and the incision was closed by interrupted sutures."

The success of this procedure was complete, and the patient continued for more than two weeks to improve without an untoward symptom—so long that her recovery seemed certain. She now commenced to lose her relish for food, grew weak and desponding, and died from exhaustion on the twenty-first day after the operation. The fatal termination detracted nothing from the success of this mode of treating the pedicle; indeed, so remarkable was the size and attachment of the tumor, that any attempt at recovery is surprising, and yet the feeble, emaciated, exhausted patient continued to live long enough to show that the manner of treating the pedicle was, at least in her case, unobjectionable.

My second opportunity to test the feasibility and safety of the plan I had suggested presented itself in the Buffalo General Hospital, in December of the same year, in a German woman sixty-six years old, of feeble and delicate appearance, and considerable emaciation. The operation was made in presence of the students of the Buffalo Medical College, and I was assisted by my colleagues both of the College faculty and hospital staff.

This tumor was found also extensively attached to the walls of the abdomen, and the process of separation was conducted as before, the bands of attachment being separated from the fibrous cyst of the tumor, not torn or broken. On reaching the pedicle it was found large, its principal arteries throbbing distinctly. It was separated readily by enucleation, commencing at its central attachment, and following out the fasciculi of vessels to their final termination upon the walls of the tumor. Upon removal, it was found to weigh seventy-one pounds, and to be composed of numerous cysts. The bands of vessels composing the pedicle, when separated from the tumor, contracted so as to leave the pedicle appearing almost as if it

had been divided with the knife. To the surprise of my associates, scarcely any hemorrhage followed the separation, much less than attended the separation of the bands of attachment elsewhere. This patient was narcotized by subcutaneous injection of morphine given by my Hospital Assistant. She died eighteen hours after the operation. *Post-mortem* examination showed no hemorrhage or other explanation, and we inferred that death was from overdose of morphine.

My friend and colleague, Prof. James P. White, of Buffalo, has since made successful trial of this plan of operation—that is, successful so far as removal by enucleation without hemorrhage is concerned. He informs me that there was less hemorrhage from the pedicle than from other places of attachment; and that, though he finally applied ligature, he did not do it from necessity, but rather from fear of its occurrence after reaction should take place. Other similar cases might be related, but I prefer to refer briefly to the experience of others, in confirmation of my own observations. Richard H. Meade, Esq., Consulting Surgeon to the Bradford Infirmary, England, thus speaks upon the subject:—

"The patient being under the influence of chloroform, I made an incision about four inches long in the lower part of the linea alba, carefully opened the peritonæum, and evacuated nearly two gallons of ascitic fluid. On enlarging the opening in the peritonæum to the same extent as the external wound, the ovarian tumor at once came into view. I now directed an assistant to compress the abdominal walls with his hands, one placed on each side, so as to compress the edges of the wound backwards, while I endeavored with my hands to draw the tumor partially through the opening. In doing this, the walls of several of the small cysts, of which the tumor was principally composed (being very thin), were ruptured by the pressure of my fingers, and a considerable quantity of thick, brown fluid, like dark-colored linseed tea, escaped. The edges of the wound were so well compressed that none of this ovarian fluid was allowed to enter the peritoneal cavity. The tumor was now found to be firmly adherent to the free extremity of the great omentum; these adhesions were carefully and slowly torn through, and the whole mass was then easily drawn through the wound. It was now found to contain a good deal of heavy, solid matter, and, on turning it over to examine its attachments, the pedicle, which was small and thin, to my dismay and annoyance at the time, gave way, and the tumor tore itself loose from its connections. Fearing hemorrhage, I kept hold of the remains of the pedicle, but very little bleeding followed, and I could find no vessel requiring ligature.

"It is difficult to account for the large quantity of ascitic fluid which was met with, unless there were some secondary deposits of cancerous matter on the peritonæum, but the history of the case would hardly lead to that supposition. The presence of a considerable amount of serous effusion in the peritoneal cavity has, however, one advantage in cases of ovariotomy—it seems to render the membrane less likely to take on acute inflammation, its delicate secreting surface having undergone some change, and after the removal of the ovarian disease it does not seem to be re-secreted.

"In some of the medical journals a case of ovariotomy has been reported (extracted from an American periodical), in which Dr. Julius F. Miner removed a very large ovarian tumor by enucleation, without either clamp, ligature, or cautery, and without hemorrhage. When I commenced the above operation I had no idea of imitating his proceeding, but when the tumor (to my horror at the time) enucleated itself, and there appeared to be no bleeding from the pedicle, I determined to follow his example, and leave the torn surface unsecured, thinking that the risk from hemorrhage was less than that from inflammation from the presence of a foreign body in the peritoneal cavity. My case turned out successfully, and I think I should venture to repeat the proceeding in some special cases—for instance, where the pedicle does not appear to be vascular—when the attempt might be made to tear the tumor gently from its connections (in the same way as adhesions are generally separated), but a firm hold should be kept of the pedicle, so that it might easily be secured in case of bleeding."—*British Medical Journal.—Braithwaite's Retrospect* for July, 1871.

Upon these facts I based the conclusion that the pedicle in ovariotomy can be safely separated from the cyst, and left without ligature, clamp, or cautery, thus avoiding many dangers attending it. At first this proposition will appear startling to surgeons who have tied large vessels in the operation, or have witnessed the fearful hemorrhage which sometimes takes place from slipping of clamp or ligature; these will regard it with incredulity, and, perhaps, without trial look upon it as wholly impracticable. I should myself, probably, be among this number, had I not had opportunity to *demonstrate* to my own mind, certainly, its entire feasibility.

The ovarian tumor is composed of a firm, dense fibrous cyst, containing fluid of varied color and composition. It may, and it may not, have a solid portion, but usually it does have more or less of a body, the remnant of an enlarged or degenerated gland. Upon the surface of this smooth, dense fibrous cyst are spread out the vascular and cellular tissues which compose the pedicle, but only the terminal branches of

the vessels enter this cyst; the vessels may be quite large at their origin, but soon they are numerously divided, and enter the cyst, if at all, of capillary size. The attachment of the pedicle to the cyst is more easily broken than any one would mistrust who has not attempted its separation in the manner described, and I am confident that the same efforts which are made to break up the adhesions to the peritonæum, omentum, and other parts, if extended to the pedicle, will be equally successful. The finger should be gently introduced under the central portion of the pedicle, and followed out along the fasciculi of vessels as they extend over the sides of the cyst; nothing can be more easy of execution.

If this method can be adopted without hemorrhage or other difficulty, its advantages are apparent.

The pedicle can then be returned into the abdominal cavity without any of the objections which have been urged against this procedure. There is no ligature to be discharged by the ulcerative process, or to become encysted, or to induce inflammation. There are no purulent or inflammatory products to be in any way removed or provided for; the pedicle is wholly a living tissue, and has no irritative qualities which render its return to the abdominal cavity objectionable. This cannot be said of it when treated by any other known method.

My object will be fully answered, provided the feasibility of enucleation in ovariotomy is shown with sufficient clearness to obtain trial by surgeons. It is now believed that all or nearly all cases will admit of it, or of this general plan at least, perhaps varied to suit circumstances; and that, where practicable, it is the least objectionable of all known methods. Prof. E. M. Moore, my colleague, has suggested that if after separation, as described, there is any slight or troublesome hemorrhage, the different fasciculi, orthe various parts which have extended over the walls of the cyst, may be braided, causing in that manner arrest of hemorrhage upon the principle of acupressure. Again, provided this method in any case should fail, the plan of arresting hemorrhage by acupressure or torsion, or separate ligation of any vessel which might seem to require it, with thread, silver wire, or other material, may yet be tried, may indeed be adopted as aid to the operation of enucleation.

The advantages of this procedure are sufficiently obvious to all surgeons of experience in this operation; and the feasibility of the method being granted, little else need be said to insure its universal adoption.—*Med. Record.*

## A Case of Recovery from Diphtheria after the Operation of Tracheotomy.

Reported by GURDON BUCK, M. D., New York.

Visited Richard, son of James H., æt. 10, residing No. 8 Dover street, at four o'clock P. M., November 28, 1871, by request of Dr. C., his attending physician, and found him suffering from very urgent and increasing dyspnœa: his voice was reduced to a whisper; cough was croupy; pulse frequent but regular; surface perspiring freely from the labor of respiration. He had been frequently vomited by medicine the preceding night, but without relief; croupy symptoms had existed for two or three days, and had become urgent within twenty-four hours. It was reported by his father that his physician had not found any exudation in the fauces. For some reason not explained, the attending physician did not appear at the hour appointed. After waiting a reasonable time I decided, in view of the extreme urgency of the symptoms, to proceed to operate. Fortunately the attendance of Dr. A. J. Harrison, who had visited the patient once, was secured without much delay. A narrow table, covered with suitable bedding, answered the purpose of an operating table. Four sperm candles cut into halves, and bound with tape into two bundles, served as lights that could be conveniently held at any point where they were required. No anæsthetic was administered. The boy's father held his head, and kept his neck on the stretch, while his godmother held the torchlights. The embarrassment of having only one medical assistant for the operation was felt at every step. The only feature of the operation to which the author would call attention is the expedient employed to facilitate the opening into the trachea itself. Two accidents are liable to occur in this step of the operation. One is, the incision may deviate from the median line; the other, failing to penetrate into the interior of the trachea, the knife may pass either between the outer surface of the trachea and its coverings, or between its inner surface and lining membrane. The procedure was as follows: An ordinary pocket-case tenaculum was thrust between the cricoid cartilage and first tracheal ring, exactly in the median line, and made to hook up the cricoid, thus serving to maintain a secure hold upon the trachea, and keep it at rest. While the tenaculum was held with the left hand, a sharp-pointed knife, held in the right, was made to penetrate the trachea immediately below the entrance of the tenaculum, and an incision was carried downward through the four upper tracheal rings. The knife, without being withdrawn, was immediately carried back to the point of entrance, and a transverse cut

two lines in length was made on either side between the cricoid cartilage and first tracheal ring, giving the tracheal opening the shape of a letter T. A double trachea tube, previously armed with a piece from the blunt end of a gum-elastic catheter traversing it, and with its blunt point projecting a little beyond the inner end of the tube to serve as an obturator, was then inserted and secured with tapes passed around the neck. After the disturbance, always consequent upon the first introduction of a tube, had subsided, the respiration became tranquil and the patient soon fell into a placid sleep. Instructions were given for the removal and replacing of the inner tube as often as it required cleansing. About three hours after the operation the tube became obstructed by a coagulum, and the parents not succeeding in removing the inner tube, suffocation would have taken place had not Dr. Harrison fortunately reached him in time to dislodge the inner tube, which he did by prying it out with a knife-blade.

During the subsequent forty-eight hours the respiration continued easy, and his general condition satisfactory. At my visit in the afternoon of Nov. 30, however, I found his respiration hurried and labored, and it had been so for two hours. The tube had been kept clean and free of obstruction. The outer tube was now removed for the first time to cleanse it and change the fastenings. This permitted a view of the wound, the surface of which was found coated with a layer of grayish tenacious exudation, not, however, pellicular. From this appearance the diphtheritic nature of the disease was obvious, and it was inferred that a similar exudation was obstructing the air-passages and producing the dyspnœa from which the patient was suffering. After replacing the outer tube, and supporting the patient in a semi-sitting posture, a solution of common table salt, in the proportion of one teaspoonful to a teacupful of warm water, was poured into the trachea through the tube, one teaspoonful at a time, and at intervals which allowed the immediate disturbing effect of it to subside. A violent cough was immediately provoked by the entrance of the fluid, accompanied by the expulsion of a quantity of the viscid secretion in a diluted state. Five or six teaspoonfuls were thus introduced in succession, when he became somewhat exhausted by his efforts in coughing. While supported in a half-sitting posture his breathing soon became easy and unobstructed, and continued so without any subsequent recurrence of dyspnœa. He continued to cough more or less, but a good night's sleep followed. The next day he was found doing well; his pulse reduced to 100; his surface natural; his countenance animated, and his spirits cheerful.

Inspected the fauces, and found no diphtheritic exudation in sight. He craved solid food and enjoyed it.

Ordered ℞. Sulph. quiniæ, sulph. ferri, āā ʒ ss.; acid. sulph. aromatic., ʒ j.; syrup zingib., ʒ vij.; aquæ cinnam., ℥ ij. Dose, ʒ j. ter in die.

*Dec.* 2. Doing well. Removed and replaced the tube, and found the surface of the wound clean and healthy; appetite good.

*Dec.* 3. An urgent message summoned me to visit him at half-past five o'clock P. M. A hemorrhage from the wound, represented as very considerable, had taken place and alarmed the parents. His pale countenance and feeble pulse (80 per minute) showed the effect of the loss of blood. A thorough examination of the wound, the surface of which was pale, could detect no vessel. The occurrence of the hemorrhage was the more remarkable as, at the operation, the bleeding had not been considerable, and no vessels had required to be ligated.

*Dec.* 4. No recurrence of hemorrhage; doing well; respiration natural and easy; appetite good.

*Dec.* 7. Progress favorable. With the tube left out and the external wound closed by the fingers, patient could articulate some words in a natural tone of voice. I therefore substituted a fenestrated single tube for the double one, and closed the outer end with a cork, thus allowing him to use his voice and to breathe through the larynx, which he did without effort.

*Dec.* 9. Patient passed the day without a tube. The lateral edges of the wound have come into contact with each other, so that the air no longer escapes through the wound; respiration is now performed per vias naturales. His voice has still further improved. His cough continuing troublesome at night, the following mixture is prescribed:—

℞. Ext. senekæ fluid. } āā ʒ ij.
Tinct. opii camph. }
Spirit. nitri dulc., ℥ ss.
Sprup. balsam tolut., ℥ ij.

M. Dose, ʒj. pro re nata.

The following preparation in the form of spray was freely used throughout the whole treatment alternately with lime water, and apparently with good effect:—

℞. Ammon. muriat. } āā ʒ ij.
Potass. chlorat. }
Tinct. senekæ, ʒ j.
Aquæ rosæ, ℥ iv.

M.

*Jan.* 11, 1872. Patient was visited, and found in all respects well. His voice had regained its full force.

## Subcutaneous Nævus; or, Aneurism by Anastomosis.

A Case and its Treatment, reported by Dr. H. PALMER, of Janesville, Wis.

An infant of Mrs. Adams, of Janesville, had at birth a cutaneous nævus posterior, and below the right ear, about three-fourths of an inch in diameter. The child was otherwise perfect and healthy.

Having discouraged any operative interference until the child was a few months old, the case was not presented again for three months, and at this time the nævus spot was more than double the size at birth, and a formidable tumor three and one-fourth inches in length, two and one-half inches in breadth, and projecting nearly two inches, occupied the parotid region, and extended downward along the course of the carotid artery.

Pulsation synchronous with the heart's action and aneurismal purring were perceptible in every part of the enlargement. Its outline was well defined, and firm pressure over the tumor, or on the carotid, would diminish it in size about one-third. An aversion to such operative interference as the condition of the child seemed to require, delayed treatment for four months. During this time the tumor had grown rapidly; it now measured six and seven-eighths inches from above downwards, five inches across, and projected three and one-fourth inches. The pulsations in it were stronger, *bruit* louder, tumor more elastic and compressible, and jets of arterial blood were thrown out when it was punctured with an exploring needle.

Treatment with astringent injections was resorted to, and for this purpose a saturated solution of the per-sulphate of iron was prepared with boiling water, and, with a hypodermic syringe, the point being made of extra length, from fifteen to thirty drops of the solution were injected into the tumor. These injections were commenced about one inch from the edge, the point of the syringe being introduced nearly to its base, and carefully and slowly withdrawn, as the fluid was slowly injected. The result of the injection would be an almost immediate consolidation of the contents of the tumor about one inch in extent.

These injections were repeated at intervals varying from four to ten days, until the entire margin was firm and solid. Considerable inflammatory action was produced at times, and slight suppuration; and as the enlargement had diminished about one-third, injections were suspended for four weeks. As the indurated portions became absorbed, there was a perceptible increase in growth, and injections were then made into the central portion of the mass every four days, the point

of the syringe being introduced to its base, a distance of two and one-fourth inches. After seven injections of this kind, the tumor was a hard inelastic mass, which gradually disappeared by absorption and occasional slight suppuration.

Nineteen injections were made during the treatment, with no unpleasant results, except from the first deep injection into the central portion, which was followed by slight lobular pneumonia. To prevent embolism during the injections, firm pressure was made on all the principal blood vessels leading to and from the tumor, and continued until the coagulum was firm.

It is now thirteen months since treatment was commenced, and a few small cicatrices, and some puckering of the skin, is the only evidence left of the diseased condition.—*Transactions Wisconsin State Medical Society.*

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### The Treatment of Syphilis by Hypodermic Injections of Corrosive Sublimate.

Dr. R. W. Taylor, in a paper read before the New York Dermatological Society, stated that he had used this method of treatment for a year and a half and had in that time treated fifty patients. He gives the following synopsis of his views:—

1. That the use of the bichloride of mercury by hypodermic injections, though a method of treatment possessing certain advantages, is, for various reasons, of limited application.

2. That it is useful in the whole secondary period of syphilis, in roseola, and in the various papular syphilides, and in that form of pustular syphilide in which there is only slight tendency to the formation of pus.

3. That it very rapidly cures all syphilitic neuroses, and that it is very beneficial in the cachexia of syphilis, whether accompanied or not by perceptible lesion.

4. That it possesses no advantages over other modes of administering mercury in the treatment of mucous patches and condylomata lata; and that these lesions yield more rapidly to a local than to any form of constitutional treatment; and that in the syphilitic lesions of the nervous system and of bone, particularly if late, its use is not to be commended.

5. That the very early tertiary syphilitic lesions, provided they are not of an ulcerative character, may be very much benefited by it, and that the simultaneous administration of iodide of potassium internally, may produce a cure more rapidly than when the two are given internally.

6. That the peculiar advantages of the treatment are: the smallness of the amount of mercury used; the rapidity of action, and the absence of systemic disturbance.

7. That a very minute quantity of mercury, averaging from two to three grains, thus administered, may cause the disappearance of very extensive syphilitic lesions, and the alleviation of very severe symptoms.

8. That in the greatest number of cases, an injection every second day of an eighth of a grain of the bichloride of mercury will produce a cure in rather less than two months, and that in very urgent cases they may be pushed, with good effects, to the extent of one or two daily.

9. That the rapidity of cure is the rule rather than the exception, and that the time required may be stated as varying between three weeks and two months.

10. That when the injections are given every second day it is very rare to observe any unpleasant systemic effects of the mercury; and that even when they are pushed more than this, these effects are never as severe as when mercury is pushed to a similar extent by the mouth.

11. That the relapses after this treatment are equally as frequent, as rapid, and as severe in character, as when mercury is given in other ways.

12. That there are unpleasant local effects of the injections, such as pain of the puncture, pain over the site of injection, induration of the connective tissue, and abscesses.

13. That in many cases the pain is very slight, and soon ceases to trouble the patient; but that in others it is so severe and persistent as to necessitate a discontinuance of the treatment, and that in every case, some slightly unpleasant local effects are experienced from the use of the injections.

14. That in exceptional cases, the injections cause a low grade of inflammation in the subcutaneous connective tissue, producing a decided induration in deep portions of the derma; and that, owing to complications which might, perhaps, arise from this condition later on, it is advisable to discontinue the injections in these cases.

15. That this induration may be observed in many cases in which it is only of an ephemeral character.

16. That if proper care is used in administering the injections, abscesses will rarely, if ever occur.

17. That it is absolutely necessary that the patient should be both intelligent, and, at the same time, thoroughly impressed with the gravity of his disease, in order that he may comprehend

the advantages he is to derive from this mode of treatment; otherwise he could not subject himself to the inconveniences which are inevitably experienced in the course of the treatment.

18. That while in dispensary and hospital practice the injections may be frequently given, in private practice the smallness of a patient's means may often be an obstacle in the way of the continuance of the treatment.

Finally, that, while in some cases the treatment may be useful by reason of its rapid action, and in others, for the smallness of the dose, the inconveniences which it produces, the objections of the patients, and the presence of lesions which contra-indicate its use, confine its sphere of usefulness to very narrow limits.

# Therapeutics.

## On the Use of the Lacto-Phosphate of Lime as an Analeptic Medicament in Adynamic Fevers and in Convalescence.

By Dr. R. Blacke, Laureate of the Medical School of Paris, &c., &c.

In a great number of acute diseases, especially in typhoid fever, typhus, and certain forms of pneumonia, we often notice a condition of considerable adynamia which takes its origin either in the peculiar character of the malady or in the constitution of the patient, and is constantly attended by a marked rise of temperature. This latter phenomenon may be rationally explained by an unceasing and general process of denutrition of the tissues. And, indeed, it is well known that all molecular changes in the form or composition of the constituent parts of the organism are attended with a disengagement of heat, and that these physiological manifestations are under the dependence of the ganglionic nervous system.

Every substance whose action tends to induce a sedation of this nervous system may, therefore, by suspending or diminishing combustion, lower the temperature and oppose the progress of spoliation and of weakening of the organism. It is chiefly through a sedative action on the ganglionic nervous system that we see medicaments, apparently so

diverse, like alcohol, coffee, coca, and even arsenic, produce beneficial results,—act, so to say, the part of anti-deperditors, and respond to that clear and precise indication, adynamia. Such is, I think, the reason of the undeniable success of alcohol in certain forms of acute affections.

But even where the acute condition of the disease no longer exists, there subsists during the period of convalescence a general atony proportional to the gravity and duration of the febrile state which had brought on a period of arrest in the phenomena of nutrition of the tissues; several months may then pass on before health is re-established, if, indeed, it is ever entirely recovered; and we all know how essential it often is to institute a prudent and rational treatment at the termination of an acute disease, in order to prevent it from passing into the chronic state. With the view of warding off such results, I put the question whether it would not be more rational to resort in such cases to agents capable of arousing in the organism the entire energy of the nutritive function, and this substance, I believe, is to be found in the phosphate of lime, combined with lactic acid, and already known in France by the name of "lacto-phosphate of lime."

I was led to the employment of this salt by the physiological study of its action in all living organisms. For it is not only in animals, but also in an equal measure in vegetables, that its action is powerful,—since, a long time ago, botanists had stated that the ligneous skeleton of plants contained but insignificant proportions of the lime phosphate, whilst this substance was constantly found in the soft and nitrogenous parts of the plants. They had shown that the very existence of albuminoid substances was linked with the presence of the phosphate, and was everywhere found in direct ratio to the quantity of this agent, so that the more strongly nitrogenated vegetable food was precisely that which contained the more phosphates.

They had found out this substance in great abundance in the bud and growing leaves; they had seen it decrease in the fully developed organ, and take its way to the grain, where it became concentrated in view of the future development of the embryo. It is furthermore known that when a grain is deposited in a situation deprived of phosphate, it produces a plant the development of which will continue only until the entire quantity of lime salt primarily contained in the grain shall have disappeared. Now, if we proceed to investigate the action of the phosphate in the mineral kingdom, we shall find identical phenomena.

I may recall the fact that in the pregnant woman we see at the end of a few days the phosphates disappear almost completely from the urine and excretions, whereas in the pelvis

and often in the cranium are formed osteophyta, destined to disappear towards the latter months of pregnancy or at the beginning of lactation. It can scarcely be objected that these phosphates are uniquely absorbed for the formation of the skeleton. Boussingault, in a series of exact experiments, which cannot be too highly quoted, has shown that young animals take up much more phosphates than is required by the development of their bony tissues alone. Besides, Boussingault, Lehmann, Mayer, and other chemists and physiologists have shown in these cases also the strict correlation which links the presence of phosphates with that of nitrogenous substances, and the concentration of this salt in all organs which are going through a process of development, and they have enounced the opinion that phosphate of lime is indispensable to the organization of albuminoid substances into cellules.[1]

In order to obtain a correct knowledge of the action of the lime salt upon nutrition, I carefully submitted a pigeon to the test of taking food which was almost deprived of phosphate of lime. It soon lost all its liveliness, its appetite, a notable portion of its flesh and weight, and it excreted more phosphate than it absorbed. At the same time the muscular and fibrous tissues diminished as rapidly as the skeleton. The addition of the phosphate to its ordinary food soon brought back the normal condition which mineral inanition had taken away. It may be also well to mention a fact which, though well known, had not until now been elucidated: that the vital activity of animals and their temperature are proportionate to the quantity of lime phosphate which they contain; so that from the bird to man, and from man to the mollusk, the quantity of this salt follows a descending course.

The lime phosphate, as has been seen, plays an important part, after its absorption, and when it is carried away with the albuminoid substances through the circulatory torrent into the intimate recesses of our tissues. But that is not its only action. It is found in abundance in the stomach, forms an essential part of the gastric juice, and its action on the digestion of food is such that Blondlot considers the phosphate of lime to be the truly active element of the gastric secretion. And I may indeed even now state the fact that excitement of the appetite and facility of digestion constantly and quickly result from the ingestion of lacto-phosphate of lime.

Such is, I believe, the uniform action of this substance investigated in the animal and vegetable kingdom. It is scarcely needful here to refer to the use to which agriculturalists

1 "It has been recognized," says Lehmann, "that in the inferior animals, in the organism of which carbonate of lime is yet the most abundant mineral substance, the phosphate of lime accumulates in the situations where new cellules are undergoing a process of development."

have turned these notions in composing phosphated manures, and to the success which has justified their applications.

How is it that, in man, the same favorable results have not been seen to follow the employment of the phosphates even in such cases where they seemed to be most clearly called for—I mean rickets, osteomalacia, and fractures of bones? A great many physicians had been led, indeed, to employ the substance in these cases, but never with those marked and precise effects which had been expected.

The failure of these attempts is satisfactorily explained when we observe that the preparation invariably prescribed was the pulverulent phosphate of lime, of which lactic acid is the natural solvent. Now, this latter substance enters only for two thousandth parts in the composition of the gastric juice. It could therefore transform and render absorbable only a very limited part of the ingested salt; whilst the remainder, dissociated, reduced into an imperfect powder, passed with the food into the intestines, and there produced constipation, and consequently an arrest of all organic functions, the ordinary result of this pathological condition.

It was, therefore, necessary, in order to obtain the beneficial effects of the substance, to introduce with certainty into the economy, large quantities of perfectly dissolved phosphate of lime.

It was in 1868 that Mr. Dusart and myself, after having investigated with care the phenomena of the digestion of phosphates in the stomach, were led to reproduce a substance representing exactly the composition of a portion of bone, rendered soluble and easily absorbable.

I have thought it necessary to enter into all the above details, because the facts which they involve, if they were not unknown, had at least passed without much engaging the notice of the profession, and because there had been no explanation of these physiological results. It seems to me that now it will be easy to understand how in convalescence, and in acute affections of an adynamic form, the functions of nutrition are restored; how after easy digestion the assimilation of food is secured, and fills up the gap produced by disease, or arrests denutrition caused by grave fevers, substituting in its stead a contrary movement.

The lacto-phosphate of lime is at once an aliment and an article of food, and a medicament of the highest value. Its administration cannot like that of alcohol, produce mischievous consequences, and it never depresses the nervous system charged with presiding over the transformations which take place in the nature or form of the elements of our tissues.

In order to illustrate the action of this preparation, I will now relate a few cases among the many instances which I have already had the opportunity of observing.

It will be, I think, better to commence with a series of simpler cases; viz., those of youths whose development had become suddenly stopped without its being possible to state any appreciable lesion, and who rapidly regained strength and returned to their normal condition through the action of the medicament upon the functions of nutrition.

CASE I.—Oscar N——, ten years of age; middle stature; has grown especially during this year (1869). Since two months the appetite has been less, and indeed is almost absent. The boy hides himself at the hours of meals, and will barely accept of a little bread. Intellectual work which before had been active and easy, now hangs heavy upon the child, and he seems incapable of any sustained effort of attention. After walking only a little, he complains of pains in the groins and in the joints of the legs. He is now pale and thin, and his eyes are black under the lids.

The most minute examination fails to detect any organic lesion, so that, taking the case to be one of arrest of growth, I content myself with prescribing the syrup of lacto-phosphate of lime (Dusart's), in doses of three tablespoonfuls a day, taken at meals.

At the end of one week's treatment the appetite and liveliness of the little patient had returned. A second phial of syrup was prescribed, at the end of which the normal condition had entirely returned, and has not been disturbed since.

There is no physician who is not frequently placed in presence of similar facts, having to attend children who, during the process of dentition or the various critical stages of development, and especially puberty, present an indifference to and sometimes a deep disgust for all kinds of food, atony of all the tissues, and often diarrhœa or constipation, resulting from this state of things. Now, we all know how difficult it is to treat such cases; for the condition of the alimentary canal no longer allows the patient to tolerate cod-liver oil, the nutritive and excitant qualities of which would otherwise render it so valuable; and, on the other hand, tonics of all kinds but too often prove of no effect.

The preparations of lacto-phosphate of lime, on the contrary, being exceedingly palatable, are readily accepted by all the young patients; and the case which I have just related may serve as a common example of the effects which are obtained through their means, and which are explained by their action both as chemical agents and as excitants of nutrition. Here

success has fully justified the expectations which I had founded on the physiological effects of the substance.

At the other extremity of life we meet with conditions which in more than one point may be compared with those which I have just mentioned. In aged persons we not unfrequently meet with an almost complete suspension of all the organic functions, and more especially those of digestion and of the various acts connected therewith. The wine of lacto-phosphate of lime, administered at the end of meals, permits digestion, increases the assimilation of alimentary substances, and awakens muscular energy, which is often abolished at this time of life.

This sinking of all the organic functions contributes powerfully to give to all the acute affections of the aged (and of those who resemble the aged by a condition of general exhaustion) a peculiar character of adynamia. In these cases, a febrile state excited by any cause brings on fatally such a movement of denutrition that the patient often dies notwithstanding the most diligent and appropriate treatment. If, as I believe, it is by acting on the ganglionic nervous system, and by suspending to a certain extent a powerful process of disassimilation, that alcohol has rendered such great services and been so very successful in cases of pneumonia and other acute affections marked by an adynamic character, does it not seem more rational to leave untouched the functions of the nervous system and seek merely to fulfill an indication so tritely put down by one of England's great clinicians?—feed the fever. And if this position be correct, I think I may safely assert that the lacto-phosphate of lime is, of all substances, the one best calculated to act as an aliment and as an excitant of the nutritive functions, in the numerous cases to which it applies.

The following case, which well exemplifies the uses of the remedy, has an importance upon which there is no need to lay any stress.

CASE II.—Madame H——, fifty-five years, tall, lean, showing much weakness, has already had three severe attacks of pneumonia.

On Thursday, July 27th, 1871, I was sent for by the patient, and I discovered the existence of a fourth pneumonia, which was invading the left lung in all its extent, and at the same time of pleuritic friction below the corresponding armpit.

These lesions were attended by diarrhœa, profuse perspiration, an expression of stupor on the countenance, and difficulty and slowness of speech. The pulse was at 112. On the 29th I prescribed four tablespoonsful of Dusart's syrup, accompanied with a small dose of the white oxide of antimony, and some

extract of cinchona. On the 30th, I noticed a very slight amendment in the symptoms.

*July* 31*st*.—The patient's voice is strong and clear; the diarrhœa has stopped; the pulse is at 90; and some *râles de retour* begin to be heard. On the following days the appetite gradually returned, and the patient's condition grew better and better. On August 3rd, the pulse was still at 80, the appetite was sharp, and local condition very satisfactory, but there existed a certain drowsiness and a state of prostration for which there was nothing to account.

*August* 4*th*.—The pulse has risen from 80 to 120; prostration is considerable, and there exists on the right side of the face a parotitis of considerable development. Pneumonia, however, is in full convalescence.

I ordered five tablespoonsful of Dusart's syrup mixed with the patient's drinks, and forty-five grains of extract of cinchona; two boiled eggs, beef tea, and Bordeaux wine.

*August* 6*th*.—The pulse is now at 108. I apply two scarifications to the enlarged parotid.

*August* 7*th*.—Pulse at 90. The appetite has returned.

*August* 12*th*.—The existence of rigor and a condition of fluctuation in the tumor induce me to make an incision, which opens the way to a considerable quantity of matter. From this time the amendment became every day more marked; suppuration soon ceased, and the patient was quickly restored to a satisfactory state of health.

I need not dwell upon the peculiar gravity of the above case. We are well acquainted with the prognosis induced by the supervention of parotitis in the course of an adynamic pneumonia, and I doubt not that without the help of this energetic medicament it would have been impossible to keep up the patient's strength, and that she would have been borne down under the pressure of such a serious complication.

Another class of diseases of an adynamic character, to which my attention could not fail to be drawn, was typhoid fever and typhus, which lay such a deep hold upon the whole organism and exert a general spoliation, well expressed by the diffluent condition of the blood. It was quite natural to attempt to combat such phenomena as these by means of an agent of whose action I had been able to judge so favorably. The results of the trial fully justified my most sanguine expectations, and it has been permitted me to see typhoid fever, even in its graver forms, terminate, in the great majority of cases, in a satisfactory manner, and be attended by only a short convalescence.

CASE III.—In the month of June last I was called to attend a child of thirteen affected with typhoid fever of twenty-six days' standing, and already in the stage of convalescence, when a relapse was brought on by an excess in regimen. The symptoms presented by the lad were of a most alarming character; the fever was exceedingly high, delirium alternated with stupor, and there was considerable distension of the abdomen. A purgative (citric lemonade) had been brought up, and the medical attendant had considered it necessary to call in a consulting physician.

I ordered two grains of calomel, divided into ten doses, which caused the delirium to cease, and produced several motions; and, as a drink, Dusart's syrup mixed with water, which was continued during several days without the assistance of any other medicament. Two days after my first visit the child willingly accepted some beef-tea, which he had until then obstinately refused. He then asked for food, and we were compelled eventually to restrain the child's demands for food, his appetite becoming more and more urgent every day. The fever, which at first had been marked by a pulse of 128 to 132, abated in a regular manner, and at the end of eight days the pulse had fallen to 80, without any exacerbation in the evening.

The quantity of food was then slowly increased, and the wine of lacto-phosphate substituted for the syrup. The child soon recovered his entire health.

CASE IV.—At the end of the first week of a case of typhoid fever of an apparently benign character in a child, delirium and vomiting supervened. It was then that, seeing the utter impossibility of the child's tolerating any alimentary liquid whatever, even milk or beef-tea mixed with water, I prescribed as its only drink Dusart's syrup mixed with water. The first effect of the medicament was to put a stop to the vomiting.

The fever, which was still very high, pulse 130 to 138, excited thirst, and in less than two days the little patient drank a phial of the syrup with water. Delirium then completely disappeared, and liquid food was well borne. I was especially struck during the following days by the development of the appetite. As the child suffered less from thirst, instead of diluting the syrup in a large quantity of drink, I contented myself with administering one spoonful of the pure syrup every three hours.

Convalescence speedily set in. Only a month after the outset of the disease the child was perfectly cured.

I do not wish to multiply cases of this kind, but I think it of importance to mention how many services this medicament

rendered me in the numerous and grave cases of typhoid fever which we have had to attend during the siege of Paris. The detestable hygienic, climatic, and even moral conditions in which at that time our patients in Paris were placed, caused the epidemic of typhoid fever to assume a form of particular gravity.

The adynamic form prevailed. The greater part of my patients were submitted to the use of the lacto-phosphate, either pure or diluted with drinks. This medication succeeded admirably. The ordinary history of the disease, as influenced by the drug, was as follows:—

Thirty-six or forty-eight hours after the absorption of the lacto-phosphate of lime, the pulse would become less frequent and the temperature lower. At the same time the countenance lost that expression of stupor which is so striking in the adynamic forms of the disease; and, to be brief, the phenomenon which was most marked of all was the rapidity with which, notwithstanding the gravity of the affection, I saw my patients enter into full convalescence.

In this last stage, when the acute phenomena have disappeared, it cannot be said that all peril has entirely ceased. We are often then placed between two alternatives; either the organism, exhausted by its recent struggle for life, remains prostrate, and allows only of an insufficient alimentation, or, the appetite being awakened, the too small quantity of gastric juice does not allow the stomach, still much enfeebled, to digest the food which the patient takes.

Now, in these cases we find in the lacto-phosphate of lime at once the chemical agent of digestion and the natural excitant of nutrition, which permits us to overcome two formidable evils, and to secure a speedy restoration to the normal condition. The cases which I have related do, I hope, afford sufficient testimony of the correctness of my assertion.—*Practitioner.*

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## Ether and Chloroform as Anæsthetics.

By J. Warrington Haward, F. R. C. S.

At a meeting of the Royal Medical and Chirurgical Society, a paper was read by Mr. Haward, which commenced by stating that, it having been suggested to the author that the statements of Dr. Bigelow and other American surgeons showed that ether as an anæsthetic had been to our detriment neglected, he had, during the past year, practically investigated the subject, and had arrived at the conclusion that ether was, for

several reasons, to be preferred to chloroform. Of these reasons, the strongest was the greater safety of ether; for by using it the chief, and in skilled hands probably the only, cause of fatal cases of chloroform inhalation was excluded—*i. e.*, paralysis of the heart; ether being a stimulant to the heart's action, and uniformly improving the pulse. The second was that ether, from its stimulant quality, was antagonistic to the effects of the shock of an operation, which the author maintained, and quoted cases to show, was not abolished by rendering the patient insensible. A third was the greater liability of chloroform than ether to produce after-sickness. The principles and mode of administering ether were then described, and it was shown that if these were attended to, the production of anæsthesia by ether was as easy and certain as by chloroform, and required but little more expenditure of time or the drug. The only cases to which ether was not so applicable were operations upon the mouth, in which the inhaler could not be used, and where it was necessary to re-administer the anæsthetic as rapidly as possible without an inhaler. There were two appendices to the paper, the first consisting of a table of fatal cases of chloroform; the second, of a table of ninety-seven cases in which the author had administered ether, including amputations, excisions, perineal section, lithotomy, lithotrity, staphyloraphy, operations on vesico-vaginal fistula, ligature of piles and other operations. Especial note was taken of the occurrence of after-sickness, and the only approach to it was that in one case, after an operation for recto-vesical fistula, the patient vomited once, an hour after the operation.

The president remarked that the author had omitted to notice the recommendation of the Committee of the Royal Medical and Chirurgical Society, to mix chloroform and ether.

Mr. Spencer Wells thought that there were grounds for not carrying out this recommendation. In Vienna, where the plan of mixing chloroform and ether had been tried, it had been found that the patients first got the effects of the ether (the lighter fluid), and were then suddenly overpowered by the chloroform. He had long felt that there were serious objections to chloroform in operations involving the abdomen, on account of the persistent vomiting which was liable to follow its administration. He had, following the example of Dr. Keith, of Edinburgh, given ether in some cases; but good ether was scarce, and the diffusion of the vapor through the air gave rise to inconvenience. After four years' experience, in more than three hundred cases, he had found bichloride of methylene to possess great advantages over both ether and chloroform. It was safer than chloroform, and after-sickness was rare. It

might be administered from a graduated bottle, by having air forced through it by means of bellows. About four deaths had been reported to have followed its use; while, from the quantity sold, it was estimated that it had been given in 50,000 or 60,000 cases. Perhaps, however, even a better anæsthetic than the bichloride of methylene would yet be discovered.

Dr. W. H. Day gave an account of the characters of bichloride of methylene, as described by Dr. Richardson. It produced less sickness than chloroform; and the patients recovered more quickly from the anæsthesia which it produced—the agent being readily eliminated. For an operation lasting half an hour, three drachms of the bichloride of methylene were generally sufficient.

Dr. C. Kidd preferred administering ether and chloroform separately. Thus it proved a good plan to place the patient at first well under the influence of chloroform, and continue the anæsthesia with ether in a separate inhaler, especially if the pulse became weak from shock or bleeding. Ether alone was very tedious; three or four ounces of chloroform would do as much as almost a pint of ether. As to the pulse, he agreed with Lister that it was very little influenced by chloroform. Sabarth gave thirty-six deaths under ether, so that it was not entirely devoid of danger. As to bichloride of methylene, it was suitable for short operations, but for long operations he considered it dangerous.

Dr. Sansom said that there were not sufficient data for estimating the relative dangers of chloroform and ether. The statistics as to chloroform differed widely; some giving the deaths as one in 16.000, and others as one in 2,500. The rate of mortality from ether was also variously given; but there was sufficient to show that it was not absolutely safe. Chloroform was more manageable than ether; on account of its nauseousness, many persons could not tolerate the latter. The danger of chloroform, in his opinion, lay in its diminishing the power of the circulation. From experiments which he had made, he agreed with Mr. Wells as to the effect of mixtures of ether and chloroform. When, however, chloroform was mixed with alcohol, it was not merely diluted, but its volatilization was retarded, and a more free admixture of air was allowed. In many cases, a small quantity of morphia might be injected hypodermically, and then a smaller amount of chloroform would be required.

Mr. Holmes had tried ether some years ago. He did not think that there was any difficulty in bringing patients under its influence, though it required about twice as much time as chloroform. There was no necessity for any diffusion of the vapor in the room; the window might be kept open. The

chief reason why he abandoned the use of ether was that, when given by a sponge (as was ordinarily the case), it produced asthenic congestion and convulsive movements, especially in patients addicted to drinking. It was useless to imagine that a perfectly safe anæsthetic could be found. As to the statistics of death after the use of anæsthetics, these were of no use, unless it were shown in each case whether the agent was administered judiciously or injudiciously. If ether were given in a proper manner, there was no objection to it, and no inconvenience of importance attended its use.

Mr. R. B. Carter had inhaled ether experimentally in 1848, and remembered that the taste of it remained for two or three days.

Mr. C. Hunter agreed with Dr. Sansom that the danger with chloroform arose from its effect on the heart. If morphia were injected, it was necessary to look to the lungs as much as to the heart.

Mr. Clover was at University College Hospital when ether was first used there by Mr. Liston. He remembered that there were many cases of sickness after its use; and he had not found it so free from this result as had been alleged. It was difficult to breathe ether freely, on account of its pungency. Statistics were not trustworthy; and it must be remembered that cases in which chloroform was given in midwifery (its full effect not being produced) were not fairly comparable with those in which it was given for the performance of great operations, such as lithotomy. Much would depend, also, on the distance from the face at which chloroform was given. If the inspired air contained more than five per cent. of the vapor, there was marked tendency to produce death by syncope. —*British Med. Journal.—Boston Med. and Surg. Journal.*

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## Clinical Lecture on Conjugal Onanism and Kindred Sins.

By William Goodell, M. D.,

Clinical Lecturer on the Diseases of Women and Children in the University of Pennsylvania.

Gentlemen—Inasmuch as certain members of the "London Dialectical Society" have been poisoning the public mind with subtle arguments against "Over-Population and Large Families," I purpose this morning to devote my hour to some subjects which are not strictly medical, and yet with salient medical aspects—subjects in themselves vile and filthy, but which concern us as physicians. The wise son of Sirach has laid down the abstract truth that "the knowledge of wicked-

ness is not wisdom;" and yet, for the correct interpretation of diseases, we must intrepidly search out their causes, whether moral or physical, however loathsome or impure they may be. Receive, then, these necessary supplements to your instruction in the attitude of true students; for to such the knowledge of immorality cannot be immoral.

Early in the practice of your profession, you will, I am sorry to say, find out that many of your patients, who should be the heads of large families, are practising detestable arts to avoid offspring. You will, on the other hand, be approached, perhaps indeed be hard pressed, by husbands, and, for that matter, by wives also, for some method of congress unattended with the risk of impregnation. You will also be consulted for the mental and bodily infirmities resulting from these and other sexual sins. You must not, therefore, go out into the world ignorant of these evils, and consequently incompetent to grapple with them. It is, however, so hard a task to discuss such subjects in acceptable language, that I confess to some squeamishness, and would much rather refer you to suitable text-books. Unfortunately, although our land is flooded with a copious literature treating of the conjugal relations, with rare exceptions it panders to our worst instincts and defiles with the slime of an impure fancy. Impudent quacks and men of battered reputations must not be your guides; far better it is for you to learn a new thrust of fence from a friendly foil, than from the stab of a foe.

My purpose is less to discuss the moral obliquity of these secret sins of the community than to show the resulting disorders. Yet I shall not limit myself to the one point of view, for the conjugal relation is twofold in its nature: it has a moral as well as a physical expression, but so interwoven that it is hardly possible formally to dissociate them. Nor would it be wise for a physician so to do; for who, so well as he, can determine how far a disturbance in the one will affect the other? Moreover, so irreparable is the moral and physical degradation resulting from these vicious sexual relations, so damaging are they to good health and to good morals, so fatal to national prosperity, that I cannot go far astray in assaulting them with every available weapon.

You have all had a religious training and respect the teachings of the Bible; let us see what light they throw upon the conjugal relation. The first words addressed by God to our first parents conveyed the following blessing and command: "And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth." The same blessing and command, in precisely the same words, were twice given to Noah. Abraham and Ishmael received the same

blessing, and so did Isaac thrice in one chapter. Laban's household sent away their sister Rebekah with the same blessing. "Give me children, or else I die," was the cry of Rachel. Jacob called his offspring "the children which God hath *graciously* given thy servant;" and the same patriarch, when dying, raised himself upon his staff in order with greater solemnity to invoke upon his beloved son Joseph "blessings of the breasts and of the womb." The Psalmist declares that "children are an heritage of the Lord; and the fruit of the womb is his reward;" and in Exodus we read that if a man "take him another wife, her food, her raiment, and her *duty of marriage*, shall he not diminish." Throughout the Old Testament you will find that fruitfulness was regarded by Jew and Gentile as the greatest of earthly blessings, and that as such it was the reward of the righteous, and as such it was withheld from the wicked. How a profanation of this blessing was regarded by God you all know from the history of Onan, who was slain for resorting to one of the "preventive measures" in vogue at the present day. Again, in the New Testament we find St. Paul giving the following advice to the married Christians at Corinth: "Defraud ye not one the other, . . . that Satan tempt you not for your incontinency. Let the husband render unto the wife due benevolence; and likewise also the wife unto the husband," etc. I have not the time to quote all that the apostle says upon this subject; but, mind you, this advice was given in troublous and persecuting times; times in which the temptation was great to prevent the increase of families; times to which the words of our Saviour were especially applicable; "Woe unto them who are with child, and to them that give suck in those days."

To these scriptural precepts and blessings you may perhaps object that they were designed for special purposes, and that, as such, they cannot concern the present generation of men. While unwilling to admit this, I reply that there is a natural religion as well as a revealed religion: the one, God's book; the other, Nature's,—a "Second Bible," as Bacon happily terms it. You have heard what the one enjoins; now listen to the teachings of the other. Let me turn to our Case-Book and read out the history of one of our clinical patients. Some of you have seen her in my private room, but, for obvious reasons, I have not brought her before the assembled class.

A. B., aged thirty, married ten years ago, has had two children, one of them dying shortly after birth. Six years ago she and her husband came to this country and opened a small store. She was at that time in robust health, "very happy," and cheerfully waited upon their customers. For no assignable reason, her health soon began to fail, and six weeks

ago she came for advice in a truly pitiable plight. To use her own language, she was "very weak and miserable;" "crying all the time;" "cannot remember anything for ten minutes;" forgets the price of the goods in her husband's store; was "constantly mislaying needful articles, and making mistakes in making change." She was "very suspicious," fancied "that everybody was against her and talking about her," and confessed to being extremely jealous of her husband. In addition to these mental disturbances, she eructates large quantities of wind, is obstinately costive, has violent palpitations of the heart, and cannot go up one flight of stairs without getting out of breath. She often staggers, loses consciousness, and sometimes falls from vertigo; is annoyed by a persistent *globus hystericus*, and has no appetite whatever. The catamenia appear every three weeks, are abundant, but unaccompanied with pain. She has, however, a constant pain in the sacral and in the left infra-mammary region; also a frequent desire to pass water, and much "bearing down" of all the pelvic organs.

Without wearying you with every detail, in one word, the subjective symptoms of uterine disease which she presented were more numerous and more marked than I had ever before seen in one patient. In making a vaginal examination—to which she reluctantly submitted—I was struck with the excessive sensitiveness of her tissues, and with the uncontrollable excitement under which she labored—symptoms hitherto in my experience limited to unmarried women addicted to self-abuse. I found the vagina crimson and hot, the womb tender to the touch, intensely congested, somewhat prolapsed, and in the first degree of retroflexion. The sound, passing through a patulous internal os, caused much pain at the fundus, and a slight hemorrhage upon its withdrawal. The *os tincæ* was surrounded by a collar of erosion, and plugged with the characteristic glairy secretion. Finally, she flinched from any pressure, however light, over each ovarian region. The significance of these symptoms I explained to her, but I need not to you.

She then took me aside, and, unsolicited, told me her history. Being in straitened circumstances upon their arrival in this country, and withal anxious to lay by money, she and her husband had agreed to have no more children. With this view, she had submitted to the following fraudulent and one-sided expedient: at the height of the orgasm the husband withdraws from her person, and thus commits the crime for which Onan was punished with death. For six years such incomplete coitions had been practised, usually as often as five times, and never less frequently than three times, a week.

She had at first attributed her ill health to change of climate, but quite recently had begun to suspect its true cause, from an unexpected improvement in all her symptoms during the casual absence of her husband on business.

Prompted by this suspicion, she came to consult me as to its correctness, and actually, in case it was confirmed, to learn from me some other preventive method of congress. I explained to her the sinfulness of her conduct, and urged her to receive the approaches of her husband in a normal way, as otherwise nothing could be done for her. This, however, she flatly refused to do, saying she would much prefer a separation or even a divorce from him. Upon inquiry, I learned that her "husband was not the man he used to be;" that he was morose and dyspeptic, complaining much of general weakness and loss of appetite. Two weeks later, she came with much glee to say that by a mutual agreement this incomplete act of coition was in future to be limited to twice a week, and that she was now ready for treatment. Whereupon I refused to have anything more to do with her; and I have not seen her since.

You have heard, gentlemen, this sad history—the history of a woman whose health is shattered, whose morals are perverted, whose mind is verging towards insanity. Now, what physical law of her being, what moral obligation, has been broken? Why has Nature been so resentful, and why these fierce reprisals? These are questions which press for an answer.

The sexual instinct has been given to man for the perpetuation of his species; but, in order to refine this gift and to set limits to its abuse, it has been wisely ordered that a purely intellectual quality—that of love—should find its most passionate expression in the gratification of this instinct. Dissociate the one from the other, and man sinks below the level of the brute. Destroy the reciprocity of the union, and marriage is no longer an equal partnership, but a sensual usurpation on the one side and a loathing submission on the other. Consider the moral effects of such shameful manœuvres; wedlock lapses into licentiousness; the wife is degraded into a mistress; love and affection change into aversion and hate. Without suffering some penalty, man cannot disturb the conditions of his well-being or trespass beyond its limitations. Let him traverse her physical laws, and Nature exacts a forfeit; dare he violate his moral obligations, an offended Deity stands ready to avenge them. That this law is immutable, witness, from the history read to you, the estrangement between husband and wife; witness his ill health and ill temper, and the wreck of body and mind to which she has been reduced.

The husband suffers mentally, because no *man* can behave

in so unmanly a way without a keen sense of self-abasement, without being stung by the chastisement of remorse. Dishonor the body, the temple of the soul, and you dishonor the soul. Again, by this cowardly recoil, his enjoyment in the act is so blunted that he is tempted to seek elsewhere for those pleasures which are denied him at home. Further, he suffers physically, because, although he passes through the crisis of the sexual act and completes it in that sense, yet, owing to his withdrawal from the person of his wife just before the moment of ejaculation, this acme of the orgasm, by the lack of the normal and necessary adjuvant—viz., the rugous and constringing vagina —is not sufficiently prolonged to wholly empty the *vasa deferentia*. Enough of the semen remains behind to tease his organs and to kindle in him desires too importunate to tolerate any great self-control. He is thus goaded on to such sexual excesses as no brain nor brawn can long support; for a constant drain on the life-giving fluid implies a constant expenditure of nerve force. Early exhaustion and premature decrepitude will inevitably ensue if this practice of "conjugal onanism" is persisted in. Nor is this name a misnomer; for there is no essential difference between this habit and that of masturbation. Both injure in precisely the same way, and for precisely the same reasons. It does, indeed, seem to be the law of Nature that man must suffer the punishment of the onanist if he parts with the "seed of another life" in any other way than in that by which it tends to become fruitful.

The wife suffers the most, because she both sins and is sinned against. She sins, because she shirks those responsibilities for which she was created. She is sinned against, because she is defrauded of her rights. Lawful congress completely performed so far satisfies an imperious instinct, that attendant local congestions are at once relieved, and to great nervous excitement succeeds a calm repose of body and mind. On the other hand, conjugal onanism provokes in her desires which keenly solicit that very gratification which is denied by the nature of the act. The excessive stimulation of the whole reproductive apparatus remains unappeased. A nervous superexcitation continues, which keeps up, as in our patient, a sexual excitement and a hyperæsthesia of the parts. By forfeiting her conjugal rights, she does not reach that timely conjuncture which loosens the tension of the coarctive muscles of her erectile tissues. Hence the congestive orgasm of the vagina, uterus, Fallopian tubes, and of the ovaries does not at once pass away, but persists for some time—perhaps is not wholly effaced before another incomplete coition brings a fresh installment. Thus arise engorgements, erosions, and displacements of the uterus, and inflammation of its appendages,

accompanied, of course, by all those protean mental and physical manifestations which I have so often pointed out to you. She takes distorted views of life and of the marriage relation, and harbors resentment against her husband as the author of all her ills.

But we have not yet done with the train of evils. The uterine, ovarian, and vaginal plexus of veins inosculate freely with the hemorrhoidal vessels, and consequently with the *venæ portarum*. Hence the turgescence of the one group of blood-vessels leads to engorgement of the other, and the persistent congestion of the intra-pelvic veins determines portal obstruction, and *vice versâ*. The absence of valves in all these vessels, and the erectile structure of the reproductive organs, favor this turgescence. As a consequence, functional derangements of the liver are commonly associated with uterine disease. No gynæcologist has failed to observe the alternate relation of cause and effect between these two conditions. To this interdependence may we refer the obstinate costiveness, the vertigo, the loss of appetite, the dyspeptic melancholy, and the suspicious nature of our patient.

Again—for the ill effects of such practices accumulate—the very barrenness aimed at by these criminal expedients is in itself a source of disease. In sterile women the absence of pregnancy prevents a break in the constantly-recurring catamenia, and the physiological congestion of the womb by ceaseless repetition is liable to become pathological. Add to this the unrelieved congestions arising from incomplete intercourse, and a prolific source of uterine and hepatic disorders is at once manifest.

I have so lately warned you against the disorders arising from excessive coitus, even when normally performed, and more especially from that indulged in during the fatigue and discomforts of the honey-moon journey, so often the starting-point of uterine disease, that it is needless for me to recur to that subject. I wish, however, in this connection, to call your attention to another source of sexual trouble, for which your advice will be sought. Either from undue ardor on the part of the husband, or from the too frigid nature of the wife, the sexual crisis with him is over before hers is reached. Such misadventures are productive not only of unhappiness, but also of disease. Here, as in conjugal onanism, the female reproductive organs are kept in a state of congestion, which is followed by like ill results, the difference being only in degree and not in kind. For this lack of reciprocation—not, however, fatal to impregnation—you will counsel to the husband the practice of some self-denial as regards the frequency of congress, and greater self-control during the act, together with

a recourse to such venial promptings as a warm and honorable affection may suggest.

But to return from a digression, there are other artifices—nay, even equipments borrowed from the brothel—for the purpose of avoiding conception, which may well alarm publicists and statesmen. For, vile as they are, they have received the open sanction of those English political economists who forget that crime and vice and human suffering in their land are due less to "over-population and large families" than to absenteeism, to the laws of primogeniture and entail, to the grasping avarice of the rich, and to the intemperance, ignorance, and shiftlessness of the poor.[1] All these expedients operate by directly preventing the access of the spermatozoa to the uterine cavity, by destroying them, or by washing them away; but they are all hurtful equally to mind and to body. If it is hazardous for an overheated stomach to receive a glass of iced water—its natural and accustomed beverage—how much more will it be to deluge the over-congested womb with such foreign fluids as cold or astringent injections! On the other hand, those mechanical contrivances for limiting the range of the spermatozoa so blunt the pleasure as to lead to unfaithfulness or to their disuse. Moreover, in common with other teachers, I am old-fashioned enough to believe that pregnancy is a necessary condition to healthful and happy marriages, and, further, that coition is innocuous only when complete in both husband and wife and when the germinal fluid bathes her reproductive organs. It is not always possible to trace the relation between cause and effect; some link in the chain of sequences often eludes our search. The *modus operandi* of many of our most common drugs is not known, and yet our confidence in them is not shaken, because the counterweight of our experience is greater. Therefore, for no other reason than that the common experience sanctions this postulate, I believe that the semen, aided of course by the general relaxation following the crisis, has a special property of allaying the congestive orgasm and the vascular turgescence of the venereal excitement.

For the limitation of families, some conscientious political economists recommend absolute abstinence. But, if the "nervous erethism" of long engagements is assigned by alienists as a common cause of insanity, and by physicians as a frequent source of uterine disturbance, what derangement of body and mind may not spring from this forced continence! Perhaps, however, we are wasting words on impossibilities.

1 Besides the causes here enumerated, other unsuspected correlations undoubtedly exist, for Social Science has hardly yet reached to the dignity of a science. Thus far, it consists mainly of di-jointed studies and isolated observations, which yet require the *junctura callida* of collation and generalization.

There is a wide-spread delusion, as old as the art of medicine itself, that intercourse after the tenth day following the cessation of the menses is not attended with the risk of impregnation. But ovulation is not necessarily menstruation; and he who constructs domestic time-tables or trusts to his almanac will find that accidents may happen in the best-regulated family.

There are, in fact, no harmless or available means for thwarting Nature's plain intention; for if they should not happen to injure the body, they assuredly will the mind. How immoral must be the effect when husband and wife meet, not "to endear each other,"—as Jeremy Taylor quaintly has it,—but to adjust accoutrements, to compound antidotes, and to consummate with preärranged precautions and cold-blooded calculations a union which for its perfect mental and physical fruition should be spontaneous and unrestrained! All these artifices soil the purity of thought, and degrade marriage into a carnal compact which regards alone the necessities of the flesh.

Such, then, are my views upon these so called "misery checks" and "common-sense measures;" and I feel that they cannot be gainsaid. I dare any political economist to show me one innocuous expedient whereby conception may be avoided. I challenge him to name a single preventive plan which will not do damage either to good health or to good morals. Even natural sterility is a curse; show me a house without children, and, ten to one, you show me an abode dreary in its loneliness, disturbed by jealousy or estrangement, and distasteful from wayward caprice or unlovable eccentricity. Depend upon it, gentlemen, there are no thornless by-paths by which man can skulk from his moral and physical obligations; no safe stratagems by which he can balk God's first blessing and first command. Therefore, as hygienists, if not as moralists; as physicians, if not as patriots; as guardians of the public health, if not as philanthropists, I charge you to frown upon such practices and take a bold stand against them. Else, see to it that in the end you are not held to a strict account for the knowledge you have this day gained.—*Phila. Med. Times.*

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Dr. H. N. HURLBUT suggests a solution of acetate of lead, 8 or 10 grs. to the pint of water, to relieve itching and also to prevent pitting in small-pox.

MANAGEMENT OF EPILEPSY.—Dr. Brown-Séquard recommends, in the treatment of epilepsy, the following combination of the bromides of ammonium and potassium: ℞. Potassii iodidi, ʒ j.; Potass. bicarb. ℈ij.; Potassii bromidi ℥ j.; Ammonii bromidi, ʒ iiss.; Inf. columbæ, ℥ vj.

S. A teaspoonful before each of the three meals, and three teaspoonfuls at bedtime, with a little water.

Dr. Robert Bartholow's (*Fisk Fund Prize Essay*) plan of treatment consists in giving a powder, containing two scruples of bromide of potassium dissolved in water, three times a day, and after the cessation of the paroxysms a drachm dose at bedtime only. It is now well known that a patient cannot omit his dose for a single day without danger of having the attacks return, and he cannot be considered exempt until he has passed two years without a convulsive seizure.

To prevent the development of bromism Brown-Séquard is in the habit of combining arsenic with the bromide of potassium. Since using this combination, he has not observed so much the debility caused by its prolonged administration. The use of iron, strychnia, the hypophosphites, is also indicated to maintain the health of epileptics during a course of bromide of potassium. The hygienical means consist of abundant food, wine, out-door employment, and a careful regulation of the moral life.—*Med. Record.*

THE KANSAS CITY

# MEDICAL JOURNAL.

## Editorial.

### STATE MEDICAL SOCIETIES.

The State Medical Societies of Kansas and Missouri both hold their annual meetings this month. It is to be hoped that the various committees from whom reports are due, will have more to offer than they did last year. The goodly State of Kansas, with all her New England men and enterprise, showed but a meagre array of scientific reports and communications, and Missouri did but little better. Since last April we have received the Transactions of the Medical Societies of several States from which we should not have expected any more than from our own, and have found them to show a record which neither Missouri nor Kansas equaled in 1871.

Aside from the presentation and discussion of papers on purely medical subjects, however, there are several questions of considerable practical import that ought to be and perhaps will be brought up, on one or two of which we would say a word.

During the past year a number of malicious and frivolous suits have been brought against reputable physicians, in this

part of the State, for damages on the ground of alleged malpractice. So far, they have all been withdrawn before coming to trial or dismissed before reaching a jury, but, even under these circumstances, they are a serious annoyance, and may necessitate a considerable expenditure of money on the part of the defendant.

Would it not be well for the State Societies to see to it that a bill is introduced and pushed in the Legislatures of these two States, providing that in all suits brought against medical men for damages, on account of alleged mal practice, the plaintiff be required to give a bond for double the amount of damages claimed; that this bond be required to be signed also by two good sureties, to be duly approved by the Judge of the Court in which suit is brought; and that the conditions of the bond be, that if the plaintiff do not maintain the suit, or recover against the defendant, then the plaintiff or his sureties shall pay to the defendant all costs and damages that the latter may sustain by reason of such suit, and all legitimate expenses incurred in defending the same?

These are the general provisions of a bill introduced into the New York Legislature, and which it is hoped will become a law.

The vexed question of Medical Education will, we presume, come up, at least in our own State Society. The usual speeches will probably be made and the usual *nothing* done.

It will be remembered, by those interested in the matter, that at the last meeting of the American Medical Association, this body re-affirmed its position of two years before, recommending to State and County Medical organizations no longer to recognize the diploma of a regular Medical College as evidence of qualification for membership, but to examine all candidates for admission on their knowledge of medicine; also advising that such Societies appoint Committees to examine and issue licenses to all physicians desiring to practice within the limits of their jurisdiction,—and a great deal more to the same effect.

Now, much as we desire to see a higher standard of medical education and professional requirements maintained, it seems to us doubtful whether it will ever be reached by these means

There was one part of the plan, however, which commended itself to the judgment of some, because it seemed to begin at the right end. It was embodied in the following resolution:

"That each State and Local Medical Society be requested to provide, as a permanent part of its organization, a Board of Censors for determining the educational qualifications of such young men as propose to commence the study of medicine, and that no member of such Societies be permitted to receive a student into his office until such student presents a certificate of proper preliminary education from the censors appointed for that purpose, or a degree from some literary college of known good standing."

The carrying into effect of such a plan as this might be practicable and could not fail to be productive of good. It would at least be a beginning, and, as remarked before, a beginning at the beginning. It would throw the responsibility of deciding on the previous qualifications of the would-be medical student, where they belong, onto the men among whom he is known and where he may very likely practice his profession, and not on a corps of teachers who know and care little or nothing about him before or after his College course. Perhaps it might be best to determine, in the State Society, what shall be considered as "proper preliminary education." But even if this were not done, and the matter were left to the discretion of local boards, we should be better off than we are now, and should stand a chance of keeping out some sadly illiterate youths who now adorn the benches of our medical schools.

## LOSTORFER'S SYPHILIS CORPUSCLES.

It was our intention to publish *in extenso* all that has been communicated concerning this supposed discovery. Space failing, we append a brief abstract.

On the 12th of Jan., Dr. Lostorfer communicated to the "Gesellschaft der Aerzte" of Vienna the discovery that, in the blood of syphilitic patients, there could be discovered, after the fifth day, "peculiar bodies, about the size of the red corpuscles, some globular, others irregular, some having one

sprout, others several," etc., etc. Profs. Stricker and Hebra confirmed this report and testified that they had submitted to Lostorfer numerous specimens of pure and syphilitic blood and that he had invariably identified the latter.

A few days after the first report of this discovery was published in the *Boston Med. and Surg. Journal*, for Feb. 8th, the *Chicago Med. Examiner* (Feb. 15th) called attention to the fact that several years ago Prof. Saulsbury, of Cleveland, O. had made the same discovery, but that on further investigation, by Bumstead and others, the supposed syphilis bodies had been found in healthy blood as well, and were thought to be the products of decomposition.

Soon after, the *Boston Journal* published another letter from its Vienna correspondent, dated Feb. 9th (published March 7th), stating that the same charge had been made against Lostorfer's syphilis corpuscles by Prof. Wedl, viz., that they were to be found equally in healthy blood. Hereupon the Vienna Society referred the matter, for investigation, to a committee consisting of Profs. Rokitansky, Brücke, Billroth and others.

When they report, we will publish the result.

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## COMMENCEMENT EXERCISES OF THE KANSAS CITY COLLEGE OF PHYSICIANS AND SURGEONS.

The Commencement Exercises of this College were held at Frank's Hall on the evening of March 4th, 1872. The hall was well filled with the *élite* of the city, and the occasion was one of the pleasantest of its kind.

The able and scholarly address of Major Thacher, President of the Board of Trustees, will be found entire in another part of this JOURNAL.

Prof. W. C. Evans delivered the Valedictory to the Class on the part of the Faculty, taking occasion to give many excellent and valuable suggestions to the neophytes, and, incidentally, to impress upon the audience some important points in the mutual relations of physician and patient, which

it would be well if we had more opportunities of bringing before the public.

Rev. Mr. Madeira wound up with a stirring, practical address, as graceful and as exactly to the point as the well-known reputation of the gentleman would lead one to expect.

The Degree of Doctor of Medicine was conferred upon the following named gentlemen: W. T. Ellis, Colorado; Wm. F Keating, Kansas; Wm. H. Robinson, Missouri; H. H. Taylor Missouri; J. P. Dimmitt, Missouri, (ad eundem).

# Correspondence.

LEAVENWORTH, March 28th, 1872.

MR. EDITOR: In the February number of your JOURNAL appears a communication from Dr. Saunders, of Lawrence, which was evidently written by him while laboring under a misapprehension.

If he will carefully adjust his spectacles and read the "report of the Ruth tragedy," as published in the *Lawrence Daily Journal* of October 20th, 1871, he will discover the following:—

"It may serve to make future references to this intricate part of the case more intelligible if I give a brief account of the tests for morphine which Dr. Saunders has most courteously supplied to me. Six chemical tests were employed by the Doctor in his investigation for morphine. The following is a list of them, with the reaction they gave:—

1. Nitric acid, which gave a bright red that changed to a reddish orange, that to yellow.
2. Sesquichloride of iron, which gave a blue that changed to a dirty green.
3. Sulpho-molybdic acid, which gave a reddish violet that changed to a blue, that to green, which, after some time, faded out.
4. Iodic acid, which gave a mixture of blue and brown.
5. Bi-chloride of platinum, which gave a yellow uncrystalline precipitate.
6. Sulphuric acid, with a small crystal of bi-chromate of potassa, which gave a green color."

If, as Dr. Saunders says, "*this statement is absolutely false,*" he will have to seek satisfaction of the reporter of the *Journal*, not of me. I have nothing to add, other than that, a more appropriate heading for his communication would have been the following: "*Parturiunt montes, nascetur ridiculus mus.*"

Respectfully, T. SINKS.

# REVIEWS.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS, BY FRANK W. HAMILTON, M. D. L.L. D., Prof. of Practice of Surgery in Bellevue Hosp. Med. College. 4th edition, revised and improved. 322 woodcuts. 8 vo. p.p. 789, Philadelphia, Henry C. Lea, 1871.

Prof. Hamilton's book needs no flourish of trumpets to introduce it to the notice or commend it to the favor of the profession. It is everywhere known and prized. This fourth edition is but little larger than previous ones and yet contains a considerable amount of new matter—some of the old of course being omitted. Some thirty-three illustrations have been added, nearly one-fourth of the entire number in the book having been changed since the 1st edition.

The most recent methods of treatment and appliances in this department of surgery are all given their legitimate share of attention.

The method of application of Lister's Carbolic Acid treatment is fully described, though the treatment itself is not enthusiastically advocated. The present edition of this work is more valuable than any previous ones and the work itself maintains its position as standard authority on fractures and dislocations.

A TREATISE ON HUMAN PHYSIOLOGY; designed for the use of Students and Practitioners of Medicine, by JOHN C. DALTON, M. D,. Prof. of Physiology and Hygiene in the College of Phys. & Surg. New York, etc. 5th edition, revised and enlarged. With 284 illustrations, 8 vo. Philadelphia. Henry C. Lea, 1871.

Dalton's Physiology is already, and deservedly, the favorite text-book of the majority of American medical students. Treating a most interesting department of science in his own peculiarly lively and fascinating style, Dr. Dalton carries his reader along without effort, and at the same time impresses

upon his mind the truths taught, much more successfully than if they were buried beneath a multitude of words.

The present edition is thoroughly revised and considerably enlarged, the additions being chiefly to the chapters on Sugar-formation in the Liver, the Circulation, Excretion, the Origin, Properties and Termination of Nervous Filaments, and some others. A number of new illustrations are also introduced.

Even now the work is not an exhaustive treatise on human physiology, nor an epitome of all the recent supposed discoveries in this domain, and its not being so is of course intentional on the part of the author. Thereby he avoids the issue of a cumbersome volume and the probable necessity of taking the back track on many points within a few years.

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A TREATISE ON THE DISEASES OF WOMEN. By T. GAILLARD THOMAS, M. D. Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York, &c., &c. Third edition, enlarged and thoroughly revised. With 246 illustrations on wood. 8 vo., p.p. 784. Henry C. Lea, Philadelphia.

This great American work on gynecology has again passed through the hands of its accomplished author, the third edition within a period of three years. The book has already been assigned its place, and it is not probable that anything we could say now would tend to lower or exalt it in the estimation of the profession, unless it be to say that the present edition comes freighted with more abundant charms than ever. The whole has been revised, many portions re-written, and nearly 140 pages and a large number of new illustrations have been added, making it a complete index of cis-atlantic gynecology and the most thoroughly practical work of its kind known.

S. S. T.

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PRACTICAL THERAPEUTICS; CONSIDERED CHIEFLY WITH REFERENCE TO ARTICLES OF THE MATERIA MEDICA. By EDWARD J. WARING, M. D, F. L. S., etc., etc. Second American from the third London Edition. 8 vo. p.p. 765. Philadelphia, Lindsay & Blakiston, 1871.

The progress made in Therapeutics during the past few years has necessitated considerable changes in this book since its former edition. These changes have been made, much that was useless being omitted and new matter substituted. The therapeutical uses of Carbolic Acid, Chloral, Iodoform, and other comparatively recent preparations are fully discussed. Dr. Waring's work fully vindicates its claim to the title of *Practical*, and by its arrangement, so convenient for ready reference, especially commends itself to the busy practitioner.

# Miscellany.

SPRING TERM OF LECTURES.—The Kansas City *College of Physicians and Surgeons* announces a Spring term of lectures to begin the 1st of April and continue until the 1st of June. There are to be two didactic lectures daily and occasional clinics at the College lecture room. The subjects are as follows:—

| | | |
|---|---|---|
| *Surgical Diseases of Women*, | Prof. | S. S. TODD. |
| *Physical Diagnosis*, | " | T. B. LESTER. |
| *Surgical Dressings and Appliances*, | " | A. B. TAYLOR. |
| *Diseases of the Ear*, | " | E. W. SCHAUFFLER. |
| *Surgical Diseases of the Eye*, | " | G. HALLEY. |
| *Disorders of Accommodation and Refraction*, | " | J. L. TEED. |
| *Hygiene*, | " | W. C. EVANS. |
| *Diseases of the Genito Urinary Organs*, | " | D. R. PORTER. |
| *Toxicology*, | " | J. L. TEED. |
| *The Larynx and Laryngoscopy*, | Dr. | I. B. WOODSON. |
| *Pharmacy and Prescribing*, | " | C. JACKSON. |

CITY HOSPITAL.—Kansas City has voted $12,000 for the erection of a new City Hospital.

THE KANSAS STATE MEDICAL SOCIETY will meet at Leavenworth on Tuesday the 9th of April.

THE MISSOURI STATE MEDICAL SOCIETY meets at St. Joseph on Tuesday the 23d of April. All regular physicians are earnestly invited to attend.

MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The Twenty-third Annual Session will be held in Philadelphia, Pa., May 7, 1872, at 11 A. M.

W. B. ATKINSON, Secretary.
1400 Pine Street, Philadelphia Pa.

## BOOKS AND OTHER PUBLICATIONS RECEIVED.

HAND BOOK OF SKIN DISEASES: By Dr. Isidor Neuman, translated from the 2d German edition by L. D. Bulkley, A. M. M. D. Illustrated with 66 wood cuts. 8 vo. pp. 437. New York. D. Appleton & Co. 1872.

EARTH AS A TOPICAL APPLICATION IN SURGERY: By Addinell Hewson, M. D., Attending Surgeon to Pennsylvania Hosp. with 4 Photo-Relief Illustrations. 12mo., pp. 309. Philadelphia. Lindsay & Blakiston. 1872.

THE DETECTION OF CRIMINAL ABORTION AND A STUDY OF FŒTICIDAL DRUGS: By Eli Van de Warker, M. D. Syracuse, N. Y. 8 vo. pp., 88. Boston. Jas. Campbell. 1872.

SMALL POX IN LOWELL: Reports of the Board of Health and the Consulting Physicans.

PROCEEDINGS of the Second Annual Session of the State Medical Association of Arkansas. 1871.

ANÆSTHETICS: By Walter Coles, M. D., of Parkersburg, W. Va.

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|---|---|
| **TOTAL INCOME SINCE ORGANIZATION, - -** | **$3,974,788.80** |
| **TOTAL AMOUNT OF INSURANCE IN FORCE, -** | **$45,655,740.00** |
| **GROSS RECEIPTS, - - - - - - - - - -** | **$2,611.950.00** |

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THIRTIETH SESSION, 1870-71.

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W. M. McPHEETERS, M. D., Prof. of Materia Medica and Therapeutics.

GEORGE B. HALL, M. D., Prof. of Physiology and General Pathology.

CHAS. O. CURTMAN, M. D., Prof. of Chemistry, Pharmacy and Toxicology

G. M. B. MAUGHS, M. D., Prof. of Obstetrics and Diseases of Women and Children.

P. GERVAIS ROBINSON, M. D., Prof. of Clinical Medicine and Principle of Diagnosis.

A. HAMMER, M. D., Prof. of Clinical and Operative Surgery and Pathological Anatomy.

R. S. ANDERSON, M. D., Prof. of Descriptive and General Anatomy.

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